BLM

U.S. Department of the Interior
Bureau of Land Management

Environmental Assessment

November 2014 Lease Sale
DOI-BLM-UT-G010-2014-093-EA
June 2014

PREPARING OFFICE

U.S. Department of the Interior
Bureau of Land Management

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Prepared by
U.S. Department of the Interior
Bureau of Land Management

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Table of Contents

1. Introduction 1

1.1. Identifying Information: 1
1.1.1. Title, EA number, and type of project: 1
1.1.2. Location of Proposed Action: 1
1.1.3. Name and Location of Preparing Office: 1
1.2. Introduction: 1
1.3. Background 1
1.4. Purpose and Need 2
1.5. Conformance with BLM Land Use Plan 3
1.6. Relationship to Statues, Regulations, or Other Plans 4
1.7. Identification of Issues: 5
1.8. Summary 5

2. Proposed Action and Alternatives 7

2.1. Description of the Proposed Action: 9
2.2. Description of Alternatives Analyzed in Detail: 9
2.2.1. Well Pad and Road Construction 9
2.2.2. Production Operations 10
2.2.3. Interim Reclamation 11
2.2.4. Produced Water Handling 11
2.2.5. Maintenance Operations 11
2.2.6. Plugging and Abandonment 11
2.3. Alternative B – No Action 11

3. Affected Environment: 13

3.1. Resources/Issues Brought Forward for Analysis 15
3.1.1. Air Quality 15
3.1.1.1. Greenhouse Gas 17
3.1.2. Designated Areas: Areas of Critical Environmental Concern 17
3.1.3. Designated Areas: Wild and Scenic Rivers 18
3.1.4. Lands with Wilderness Characteristics 19
3.1.4.1. Archy Bench A Wilderness Character Inventory Uni 19
3.1.4.2. Badlands Cliff Inventory Unit 19
3.1.4.3. Desolation Canyon Wilderness Character Inventory Unit 20
3.1.4.4. Lower Bitter Creek Inventory Unit 20
3.1.4.5. White River Inventory Unit 20
3.1.5. Livestock Grazing & Rangeland Health Standards 20
3.1.6. Recreation 21
3.1.6.1. Nine Mile - Special Recreation Management Area (SRMA) 21
3.1.6.2. Second Nature assigned Campsites (considered part of the Vernal ERMA) 21
3.1.6.3. White River Corridor (considered part of the Vernal ERMA) 21
3.1.7. Visual Resources 22

3.1.8. Wildlife: Migratory Birds including Raptors 22
3.1.8.1. Raptors 23
3.1.9. Wildlife: Non-USFWS Designated 23
3.1.9.1. Elk 23
3.1.9.2. Mule Deer 23
3.1.10. Wildlife: Threatened, Endangered, Proposed or Candidate 24

4. Environmental Effects: 29

4.1. Issues Carried Forward for Analysis 31
4.1.1. Alternative A – Proposed Action 31
4.1.1.1. Air Quality 31
4.1.1.2. Designated Areas: Areas of Critical Environmental Concern 33
4.1.1.3. Designated Area: Wild and Scenic Rivers 34
4.1.1.4. Lands with Wilderness Characteristics 34
4.1.1.5. Livestock Grazing and Rangeland Health 36
4.1.1.6. Recreation 36
4.1.1.7. Visual Resources 38
4.1.1.8. Wildlife: Migratory Birds including Raptors 39
4.1.1.9. Wildlife: Non USFWS Designated 39
4.1.1.10. Wildlife: Threatened, Endangered, Proposed or Canidate 39
4.2. Alternative B – No Action 42
4.2.1. Air Quality 42
4.2.2. Designated Area: Areas of Critical Environmental Concern 42
4.2.3. Lands with Wilderness Characteristics (LWC) 42
4.2.4. Recreation 42
4.2.5. Visual Resources 42
4.2.6. Wildlife: Migratory Birds 43
4.2.7. Wildlife: Non-USFWS Designated 43
4.2.8. Wildlife: Threated, Endangered, Proposed or Candidate 43
4.3. Cumulative Impacts Analysis 43
4.3.1. Air Quality 43
4.3.2. Designated Area: Areas of Critical Environmental Concern 44
4.3.2.1. Lower Green River Corridor ACEC 44
4.3.2.2. Nine Mile Canyon ACEC 45
4.3.3. Designated Area: Wild and Scenic Rivers 45
4.3.3.1. The Lower Green River Suitable Wild and Scenic River (WSR) Segment 45
4.3.4. Lands with Wilderness Characteristics (LWC) 45
4.3.4.1. Archy Bench A Wilderness Character Inventory Unit (6,737 Acres) 46
4.3.4.2. Badlands Cliff Inventory Unit (7442 Acres) 46
4.3.4.3. Desolation Canyon Wilderness Character Inventory Unit (63,118 Acres) 46
4.3.4.4. Lower Bitter Creek Inventory Unit (11,417 Acres) 46
4.3.4.5. White River Inventory Unit (21,210 Acres) 46
4.3.5. Livestock Grazing & Rangeland Health Standards 46
4.3.6. Recreation 47
4.3.6.1. Nine Mile - Special Recreation Management Area (SRMA) 47
4.3.6.2. Second Nature assigned Campsites (considered part of the Vernal ERMA) 47
4.3.6.3. White River Corridor (considered part of the Vernal ERMA) 47

4.3.7. Visual Resources 48
4.3.8. Wildlife: Migratory Birds 48
4.3.9. Wildlife: Non-USFWS Designated 48
4.3.10. Wildlife: Threatened, Endangered, Proposed or Candidate 48

5. Tribes, Individuals, Organizations, or Agencies Consulted: 51

6. List of Preparers 55

Appendix A. Preliminary Oil and Gas Lease Sale List 59

Appendix B. Maps 85

Appendix C. Interdisciplinary Team Checklist 91

C.1. Interdisciplinary Team Checklist 91

Appendix D. Deferred Parcels and Parcel Sections 103

Appendix E. Comments And Responses 107

Appendix F. Parcel Pictures 109

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List of Tables

Table 3.1. Air Quality Regulatory Backgrounds for the Uinta Basin 16
Table 3.2. BLM Visual Resource Management (VRM) Class Objectives 22
Table 3.3. Lease Parcels ID and associated VRM Classes 22
Table 3.4. Threatened, Endangered, Candidate, or Sensitive Animal Potential Occurrence 24
Table 4.1. Anticipated Emissions [1] 32
Table 4.2. Applicable Lease Stipulations for the Lower Green River Corridor ACEC 33
Table 4.3. Applicable Lease Stipulations for the Nine Mile Canyon ACEC 34
Table 4.4. Lease Stipulations Applicable to the Lower Green River WSR Suitable Section 34
Table 4.5. Nine Mile Canyon SRMA Stipulations 37
Table 4.6. Second Nature's Assigned Campsite Stipulations 37
Table 4.7. White River Stipulations 38
Table 4.8. General VRM Stipulations 38
Table 4.9. General Wildlife Stipulations 39
Table 4.10. Threatened, Endangered, Candidate, or Sensitive Animal Potential Impacts 40
Table 4.11. 13 Threatened, Endangered, Candidate, or Sensitive Animal Stipulations/Notices. .. 41
Table 4.12. Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison ... 44
Table 5.1. List of Persons, Agencies and Organizations Consulted 53
Table 6.1. List of Preparers 57
Table A.1. Preliminary Oil and Gas Lease Sale List 59
Table A.2. Utah Stipulations 74
Table A.3. Utah's Lease Notices 79

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Chapter 1. Introduction

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1.1. Identifying Information:

1.1.1. Title, EA number, and type of project:

November 2014 Oil and Gas Lease Sale

DOI-BLM-UT-G010-2014-093-EA

1.1.2. Location of Proposed Action:

See Appendix B for Map of Leases

1.1.3. Name and Location of Preparing Office:

Vernal Field Office
170 South 500 East
Vernal, Utah 84078
Phone: (435) 781-4400
Fax: (435) 781-4410

1.2. Introduction:

The Bureau of Land Management (BLM) has prepared this environmental assessment (EA) to disclose and analyze the environmental consequences of the sale of 41 parcels during the November 2014 oil and gas lease sale and subsequent potential development. The EA is a site-specific analysis of potential impacts that could result from the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any significant impacts could result from the analyzed actions. *Significance* is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of Finding of No Significant Impact (FONSI). A FONSI statement documents the reasons why implementation of the selected alternative would not result in significant environmental impacts (effects) beyond those already addressed in the Vernal Field Office Resource Management Plan (VFO RMP; BLM, 2008). If the decision maker determines that this project has significant impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record may be signed for the EA approving the selected alternative, whether the proposed action or another alternative.

1.3. Background

The surface rights for most of the 41 parcels considered in the EA are owned by the federal government and administered by the VFO (see Appendix A, November 2014 Preliminary Oil and Gas Lease Sale List; and Appendix B, Maps of Parcels). The Surface of approximate 39,327.70 acres are administered by the BLM. The surface of approximately 480 acres of parcels 151, 169, 174, 176, and 214 are Privately owned. The surface of approximately 511.68 acres in parcels

174 and 163 are owned by the State of Utah. The mineral rights for all parcels proposed in this document are held by the United States government. Appendix A provides the surface ownership, legal descriptions and acreages by the parcel identification number.

Initially 90 Parcels were proposed for the 2014 lease sale. Of those 90 preliminary parcels, 49 entire parcels and portions of 12 parcels were deferred from consideration for the November 2014 lease sale on account of issues related to Greater Sage-grouse habitat, White-Tailed prairie dog habitat or existing facilities that had not been analyzed under the Vernal RMP, which would not be adequately addressed before the November 2014 lease sale.

In general, the BLM USO conducts a quarterly competitive lease sale to sell available oil and gas lease parcels in the state. In the process of preparing a lease sale the BLM USO compiles a list of lands nominated and legally available for leasing, and sends a parcel list to the appropriate District Office where the parcels are located. District and Field Office staff then review and verify that the parcels are in areas available for leasing; any new information that has become available; assess any circumstances that have changed to determine what level of analysis is required; attach appropriate stipulations and notices; conduct appropriate consultations; complete site visits; and identify any special resource conditions for potential bidders. The Field Office then either determines that existing analyses provide an adequate basis or that additional analysis is needed before making a leasing recommendation.

In most instances, an EA is being used to determine the necessary administrative actions, stipulations, lease notices, special conditions, or restrictions that would be made a part of an actual lease at the time of issuance. The EA and unsigned FONSI are made available to the public for a 30-day public comment period on the BLM EPlanning Website.[1] Additional information is made available on the oil and gas leasing webpage. After analyzing and incorporating all substantive comments received during the public comment period, changes to the document and/or lease parcels list are made if necessary. The EA and unsigned FONSI are released again with a parcel list including applicable lease stipulations and notices through a Notice of Competitive Lease Sale (NCLS) which initiates a 30-day protest period. The public comment period for this EA will occur from June 13, 2014 to July 14, 2014. Lease stipulations and notices applicable to each parcel are specified in the sale notice. Under all alternatives, continued interdisciplinary support and consideration would be required to ensure on the ground implementation of planning objectives, including the proper implementation of stipulations, lease notices and Best Management Practices (BMPs) through the APD process.

1.4. Purpose and Need

The parcels proposed for leasing were nominated by the public. The need for the sale is to respond to the public's nomination requests. Offering parcels for competitive oil and gas leasing provides for the orderly development of fluid mineral resources under BLM's jurisdiction in a manner consistent with multiple use management and environmental consideration for the resources that may be present. The purpose of the lease sale review process is to ensure that adequate provisions are included in the lease terms, notices and stipulations to protect public health and safety and assure full compliance with the objectives of NEPA and other federal environmental laws and regulations designed to protect the environment and the multiple use management of thepublic lands. The sale and development of oil and gas leases is needed to meet the energy needs of the United States public. The BLM is required by law to review areas that have been nominated for

[1]http://www.blm.gov/pgdata/content/wo/en/prog/planning/planning_overview/eplanning2.html

oil and gas leasing. Oil and gas leasing is a principal use of the public lands as identified in Section 102(a)(12), 103(1) of the Federal Land Policy and Management Act of 1976 (FLPMA), and it is conducted to meet requirements of the Mineral Leasing Act of 1920, as amended, the Mining and Minerals Policy Act of 1970, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Reform Act). Leases would be issued pursuant to 43 CFR subpart 3100.

1.5. Conformance with BLM Land Use Plan

The Proposed Action and No Action alternatives described below are in conformance with VFO ROD RMP (BLM, 2008) because they are specifically provided for in planning decision. More specifically, the proposed Action is in conformance with the following decisions form the VFO ROD/RMP

- The ROD for the VFO RMP/FEIS decisions MIN 6 – MIN 14 (pages 98-99) identifies those specific lands within the Vernal Field Office that are available for leasing as illustrated on its corresponding Oil and Gas Leasing map (Figure 8a).
- Appendices K (Surface Stipulations to all Surface Disturbing Activities), L (Utah's T&E and Special Status Species Lease Notices for Oil and Gas and BLM Committed Measures) and R (Fluid Mineral Best Management Practices) of the Vernal RMP/ROD contain pertinent stipulations, lease notices and committed measures.

It is also consistent with RMP decisions and their corresponding goals and objectives related to the management of (including but not limited to) air quality, cultural resources, recreation, riparian, soils, water, vegetation, fish & wildlife and Areas of Critical Environmental Concern (ACEC).

Standard lease terms provide for reasonable measures to minimize adverse impacts to specific resource values, land uses, or users (Standard Lease Terms are contained in Form 3100-11, Offer to Lease and Lease for Oil and Gas, U.S. Department of the Interior, BLM, October 2008 or later edition). Compliance with valid, nondiscretionary statutes (laws) is included in the standard lease terms. Nondiscretionary actions include the BLM's requirements under federal environmental protection laws, such as the Clean Water Act, Clean Air Act, Endangered Species Act, National Historic Preservation Act, and Federal Land Policy Management Act, which are applicable to all actions on federal lands.

Once the lease has been issued, the lessee has the right to use as much of the leased land as necessary to explore for, drill for, extract, remove, and dispose of oil and gas deposits located under the leased lands, subject to the standard lease terms and additional restrictions attached to the lease in the form of lease stipulations. Even if no restrictions are attached to the lease, the operations must be conducted in a manner that avoids unnecessary or undue degradation of the environment and minimizes adverse impacts to the land, air, water, cultural, biological, and visual elements of the environment, as well as other land uses or users. Also included in all leases are the two mandatory stipulations for the statutory protection of cultural resources (BLM Washington Office Instruction Memorandum No. 2005-03, Cultural Resources and Tribal Consultation for Fluid Minerals Leasing) and threatened or endangered species (BLM Washington Office Instruction Memorandum No. 2002-174, Endangered Species Act Section 7 Consultation), which are described in Sections 4.3.1.1 and 4.3.1.4, respectively. BLM would also encourage industry to consider participating in EPA's Natural Gas STAR program under all alternatives. The program is a flexible, voluntary partnership between EPA and the oil and natural gas a future lease operator wherein EPA works with companies that produce, process, transmit and distribute natural gas to

identify and promote the implementation of cost-effective technologies and practices to reduce emissions of methane, a greenhouse gas.

1.6. Relationship to Statues, Regulations, or Other Plans

The proposed action is consistent with federal environmental laws and regulations, Executive Orders, and Department of Interior and the BLM policies and is in compliance, to the maximum extent possible, with state laws and local and county ordinances and plans, including the following:

- Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776, 43 U.S.C. 1761) and the regulations issued there under at 43 Code of Federal Regulations, part 2800.
- Taylor Grazing Act (1934), as amended
- Utah Standards and Guidelines for Rangeland Health (1997)
- BLM Utah Riparian Management Policy (2005)
- Section 106 of the National Historic Preservation Act of 1966, as amended and associated regulations at 36 CFR Part 800
- Bald and Golden Eagle Protection Act of 1962
- Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), as amended.
- BLM Manual 6840- Special Status Species Management
- Migratory Bird Treaty Act (1918)
- Utah Partners in Flight Avian Conservation Strategy Version 2.0.
- Birds of Conservation Concern 2002
- Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds
- MOU between the USDI BLM and USFWS to Promote the Conservation and Management of Migratory Birds (4/2010)
- Utah Supplemental Planning Guidance: Raptor Best Management Practices (BLM UTSO IM 2006-096)
- Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (U.S. Department of Interior, Bureau of Land Management, June 2007)
- Oil and Gas Leasing Reform —Land Use Planning and Lease Parcel Reviews (BLM WO IM 2010-117)
- Oil and Gas Leasing Program NEPA Procedures Pursuant to Leasing Reform (BLM UT IM 2014-006)

- MOU Among the USDA, USDI and EPA Regarding Air Quality Analysis and Mitigation for Federal Oil and Gas Decisions Through the NEPA Process (2011)
- BLM Manual 6310 - Conducting Wilderness Characteristics Inventory of BLM Lands
- BLM Manual 6320 - Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process
- Greater Uinta Basin Oil and Gas Cumulative Impacts Technical Support Document (2012)
- Conservation Plan for Greater Sage-grouse in Utah February 14, 2013 FINAL
- Green River District Reclamation Guidelines IM-UT-G000–0002
- Vernal Field Office Surface Disturbance Weed Policy (IM-UT-G010-10-001).

The attached Interdisciplinary Team Checklist, Appendix C, was developed after consideration of these laws, ordinances, policies and plans.

1.7. Identification of Issues:

The proposed action was reviewed by an interdisciplinary parcel review (IDPR) team composed of resource specialists from the Vernal Field Office. This team identified resources in the parcel areas which might be affected and considered potential impacts using current office records, geographic information system (GIS) data, and site visits to the proposed lease parcels.On February 14, 2014, letters or memorandum were sent to provide notice of the lease sale, parcel locations and an invitation to attend the parcel site visits to the National Park Service, the United States Fish and Wildlife Service, the United States Forest Service and the State of Utah's Public Lands Policy Coordination Office, Division of Wildlife Resources (DWR) and the School and Institutional Trust Lands Administration. In addition, GIS data depicting the proposed lease parcels was transmitted to DWR and the National Park Service by electronic mail on January 31 and February 27, 2014, respectively. The interdisciplinary team conducted site visits to validate existing data and gather new information in order to make an informed leasing recommendation on March 26th, 27th, April 2nd, 3rd, 7th, 8th and 9th. The results of the interdisciplinary team review are contained in the Interdisciplinary Team Checklist, Appendix C.

1.8. Summary

This chapter has presented the purpose and need of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves potential issues, the BLM has considered and/or developed a range of action alternatives. These alternatives are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each alternative considered in detail are analyzed in Chapter 4 for each of the identified issues.

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Chapter 2. Proposed Action and Alternatives

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2.1. Description of the Proposed Action:

This environmental assessment focuses on the Proposed Action and No Action alternatives. Other alternatives were not considered in detail because the issues identified during scoping did not indicate a need for additional alternatives or mitigation beyond those contained in the Proposed Action. The No Action alternative is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action.

2.2. Description of Alternatives Analyzed in Detail:

Alternative A-Proposed Action

Under Alternative A parcels would be offered for lease at the November 2014 competitive Oil and Gas Lease Sale, to be held at the Utah BLM State Office. These parcels would be offered for lease subject to the applicable laws and regulations, the standard lease terms contained in BLM Form 3100-11 (Offer to Lease and Lease for Oil and Gas, October 2008), and the additional resource protection measures attached consistent with the VFO RMP (BLM, 2008). Legal descriptions of and stipulations and notices attached to each parcel can be found in Appendix A, and maps of the parcels can be found in Appendix B.

Leasing is an administrative action that affects economic conditions but does not directly cause environmental consequences. However, leasing is considered to be an irretrievable commitment of resources because the BLM generally cannot deny all surface use of a lease unless the lease is issued with a No Surface Occupancy stipulation. Potential oil and gas exploration and production activities, committed to in a lease sale, could impact resources and uses in the planning area. Direct, indirect or cumulative effects to resources and uses could result from as yet undetermined and uncertain future levels of lease exploration or development.

Although at this time it is unknown when, where, or if future well sites or roads might be proposed on any leased parcel, should a lease be issued site specific analysis of individual wells or roads would occur when a lease holder submits an APD (Application for Permit to Drill). The Reasonably Foreseeable Development (RFD) scenario serves as an analytical baseline for identifying and quantifying direct, indirect, and cumulative effects of oil and gas activity and forms the foundation for the analysis of the effects of oil and gas management decisions in planning and environmental documents. For analysis purposes, this EA generally assumed that one well and associated facilities would be developed on each lease parcel in the manner described in the following section.

2.2.1. Well Pad and Road Construction

Equipment for well pad construction would consist of dozers, scrapers, and graders. Topsoil from each well pad would be stripped to a maximum depth of six inches and stockpiled for future reclamation. Disturbance for each well pad would be estimated at an area of approximately 350 feet by 250 feet (~2 acres of land), including topsoil piles. For this analysis, it was assumed that disturbance for well pads could be as high as 6 acres per well to account for any infrastructure (e.g., gas pipelines) that would be required if the wells were to go into production (see below).

It is anticipated that new or upgraded access roads would be required to access well pads and maintain production facilities. Construction of new roads or upgrades to existing roads would

require a 30-foot construction width and would be constructed of native material. Any new roads constructed for the purposes of oil and gas development would be utilized year-round for maintenance of the proposed wells and other facilities, and for the transportation of fluids and/or equipment, and would remain open to other land users. The type of equipment required for these activities would be the same as that needed for well pad construction. It is not possible to determine the distance of road that would be required because the location of the wells would not be known until the APD stage. However, for purposes of analysis it is assumed that disturbance from access roads would be approximately 1.8 acres of disturbance for each well (0.5 mile of road/well).

2.2.2. Production Operations

If wells were to go into production, facilities would be located at the well pad and typically include a well head, a dehydrator/separator unit, and storage tanks for produced fluids. The production facility would typically consist of two storage tanks, a truck load-out, separator, and dehydrator facilities. Construction of the production facility would be located on the well pad and not result in any additional surface disturbance.

All permanent surface structures would be painted a flat, non-reflective color (e.g., juniper green) specified by the BLM in order to blend with the colors of the surrounding natural environment. Facilities that are required to comply with the Occupational Safety and Health Act (OSHA) will be excluded from painting color requirements. All surface facilities would be painted immediately after installation and under the direction and approval of the BLM.

If oil is produced, the oil would be stored on location in tanks and transported by truck to a refinery. The volume of tanker truck traffic for oil production would be dependent upon production of the wells, however, it is estimated oil would be transported to a Salt Lake City refinery at least once a week, using 280-barrel tanker trucks.

If natural gas is produced, construction of a gas sales pipeline would be necessary to transport the gas. An additional Sundry Notice, right of way (ROW) and NEPA analysis would be completed, as needed, for any pipelines and/or other production facilities across public lands. BLM BMPs (Best Management Practices), such as burying the pipeline or installing the pipeline within the road, would be considered at the time of the proposal. For the purpose of this EA, it is assumed that 0.5 mile of pipeline would be installed within the 30-foot road width per well pad.

All operations would be conducted following the “Gold Book” Surface Operating Standards for Oil and Gas Exploration and Development. The Gold Book was developed to assist operators by providing information on the requirements for conducting environmentally responsible oil and gas operations on federal lands. The Gold Book provides operators with a combination of guidance and standards for ensuring compliance with agency policies and operating requirements, such as those found at 43 CFR 3000 and 36 CFR 228 Subpart E; Onshore Oil and Gas Orders (Onshore Orders); and Notices to Lessees. Included in the Gold Book are environmental BMPs; these measures are designed to provide for safe and efficient operations while minimizing undesirable impacts to the environment.

Exploration and development on split-estate lands is also addressed in the Gold Book, along with IM 2003-131, Permitting Oil and Gas on Split-Estate Lands and Guidance for Onshore Oil and Gas Order No. 1, and IM 2007-165, Split-Estate Report to Congress – Implementation of Fluid Mineral Leasing and Land Use Planning Recommendations. Proper planning and consultation,

along with the proactive incorporation of these BMPs into the APD Surface Use Plan of Operations by the operator, will typically result in a more efficient APD and environmental review process, increased operating efficiency, reduced long-term operating costs, reduced final reclamation needs, and less impact to the environment.

2.2.3. Interim Reclamation

All fluids in the reserve pit would be allowed to dry prior to reclamation work. After fluids have evaporated from the reserve pit, sub-soil would be backfilled and compacted within 90 days. If the fluids within the reserve pit have not evaporated within 90 days (weather permitting or within one evaporation cycle i.e. one summer), the fluid would be pumped from the pit and disposed of in accordance with applicable regulations. Portions of the well pad not needed for production of the proposed well, including the reserve pit, would be recontoured, and topsoil would be replaced, scarified, and seeded within 180 days of the plugging the well. The 30-foot road construction width would be reclaimed to an 18-foot wide crowned running surface plus drainage ditches. The topsoil would be spread over the interim reclamation area, seeded, left in place for the life of the well, and then used during the final reclamation process. Reclaimed land would be seeded with a mixture (certified weed free) and rate as recommended or required by the BLM.

2.2.4. Produced Water Handling

Water is often associated with either produced oil or natural gas. Water is separated out of the production stream and can be temporarily stored in the reserve pit for 90 days. Permanent disposal options include discharge to evaporation pits or underground injection. Handling of produced water is addressed in Onshore Oil and Gas Order No. 7.

2.2.5. Maintenance Operations

Traffic volumes during production would be dependent upon whether the wells produced natural gas and/or oil, and for the latter, the volume of oil produced.

Well maintenance operations may include periodic use of work-over rigs and heavy trucks for hauling equipment to the producing well, and would include inspections of the well by a pumper on a regular basis or by remote sensing. The road and the well pad would be maintained for reasonable access and working conditions.

2.2.6. Plugging and Abandonment

If the wells do not produce economic quantities of oil or gas, or when it is no longer commercially productive, the well would be plugged and abandoned. The wells would be plugged and abandoned following procedures approved by a BLM Petroleum Engineer, which would include requiring cement plugs at strategic positions in the well bore. All well pads would be reclaimed according to the standards established in the Green River District Reclamation Guidelines.

2.3. Alternative B – No Action

Under the No Action alternative none of the nominated parcels would be offered for sale.

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Chapter 3. Affected Environment:

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This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area as identified in the Interdisciplinary Team Checklist found in Appendix C. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4. Only those aspects of the affected environment that are potentially impacted are described in detail (see Appendix C).

3.1. Resources/Issues Brought Forward for Analysis

3.1.1. Air Quality

The Project Area is located in the Uinta Basin, a semiarid, mid-continental climate regime typified by dry, windy conditions and limited precipitation. The Uinta Basin is subject to abundant sunshine and rapid nighttime cooling. Wide seasonal temperature variations typical of a mid-continental climate regime are also common. Existing point and area sources of air pollution within the Uinta Basin include the following:

- Exhaust emissions (primarily CO, NO_x, $PM_{2.5}$, and HAPs) from existing natural gas fired compressor engines used in transportation of natural gas in pipelines;
- Natural gas dehydrator still-vent emissions of CO, NO_x, $PM_{2.5}$, and HAPs;
- Gasoline and diesel-fueled vehicle tailpipe emissions of VOCs, NO_x, CO, SO_2, PM10, and $PM_{2.5}$;
- Oxides of sulfur (SO_x), NO_x, and fugitive dust emissions from coal-fired power plants and coal mining and processing;
- Fugitive dust (in the form of PM_{10} and $PM_{2.5}$) from vehicle traffic on unpaved roads, wind erosion in areas of soil disturbance, and road sanding during winter months;
- Long-range transport of pollutants from distant sources.

The Uinta Basin is designated as unclassified under the Clean Air Act, meaning that adequate air monitoring is not available to make an attainment determination. NAAQS are standards that have been set for the purpose of protecting human health and welfare with an adequate margin of safety. Pollutants for which standards have been set include ground level ozone (O_3) sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM_{10}) or 2.5 microns in diameter ($PM_{2.5}$). Airborne particulate matter (PM) consists of tiny coarse-mode (PM_{10}) or fine-mode ($PM_{2.5}$) particles or aerosols combined with dust, dirt, smoke, and liquid droplets. $PM_{2.5}$ is derived primarily from the incomplete combustion of fuel sources and secondarily formed aerosols, whereas PM_{10} is primarily from crushing, grinding, or abrasion of surfaces.

The Utah Division of Air Quality (UDAQ) estimates background air quality as guidance for regulatory modeling of permitted sources to insure NAAQS compliance. These background values are used in dispersion models which need a background value to add to a proposed point sources emissions so that an evaluation can be made on whether the source will meet NAAQS. These background estimates are based on monitored values when possible and on default factors when monitoring data does not exist. UDAQ does not estimate ozone and $PM_{2.5}$ background values, as the models used to determine impacts from these pollutants estimate background as

part of the overall modeling calculations. **Table 3.1** lists the latest regulatory background values from UDAQ for the Uinta Basin.

Table 3.1. Air Quality Regulatory Backgrounds for the Uinta Basin

Pollutant	**Averaging Period(s)**	**Uinta Basin Background Concentration (µg/m3)**	NAAQS **(µg/m3)**
SO2	Annual	5	80
	24-hour	10	365
	3-hour	20	1,300
NO2	Annual	17	100
PM10	24-hour	28	150
CO	8-hour	1,111	10,000
CO	1-hour	1,111	40,000

Ground-level ozone (O_3) is a secondary pollutant that is formed by a chemical reaction between NO_x and VOCs in the presence of sunlight. Precursor sources of ozone include motor vehicle exhaust and industrial emissions, gasoline vapors, some tree species emissions, wood burning, and chemical solvents. Ozone is generally known as a summertime air pollutant. Ozone is a regional air quality issue because, along with its precursors, it transports hundreds of miles from its origins. Maximum ozone levels may occur at locations many miles downwind from the sources.

Two year-round air quality monitoring sites were established in summer 2009 near Red Wash (southeast of Vernal, Utah) and Ouray (southwest of Vernal). The monitors were certified as Federal Reference Monitors in fall of 2011. These monitors can be used to make NAAQS compliance determinations. The complete EPA Ouray and Redwash monitoring data can be found at: http://www.epa.gov/airexplorer/index.htm

Both monitoring sites have recorded numerous exceedences of the 8-hour ozone standard during the winter months (January through March 2010, 2011, 2013 and 2014). It is thought that high concentrations of ozone are being formed under a “cold pool” process. This process occurs when stagnate air conditions form with very low mixing heights under clear skies, with snow-covered ground, and abundant sunlight. These conditions, combined with area precursor emissions (NO_x and VOCs), can create intense episodes of ozone. The exceedences did not occur in 2012 due to lack of snow cover. This phenomenon has also been observed in similar locations in Wyoming. Winter ozone formation is a newly recognized issue, and the methods of analyzing and managing this problem are still being developed. Existing photochemical models are currently unable to reliably replicate winter ozone formation. This is due to the very low mixing heights associated with unique meteorology of the ambient conditions. Further research is needed to definitively identify ozone precursor sources that contribute to observed ozone concentrations.

Based on the emission inventories developed for Uintah County, the most likely dominant source of ozone precursors in the Uinta Basin are oil and gas operations in the vicinity of the monitors. While ozone precursors can be transported large distances, the meteorological conditions under which this cold pool ozone formation is occurring tends to preclude transport. At the current time ozone exceedances in this area seem to be confined to the winter months during periods of intense surface inversions and low mixing heights. Work is ongoing to definitively identify the sources of ozone precursors contributing to the observed ozone concentrations. In particular, speciation of

gaseous air samples collected during periods of high ozone is needed to determine which VOC s are present and what their likely sources are.

The UDAQ conducted limited monitoring of $PM_{2.5}$ in Vernal, Utah in December 2006. During the 2006-2007 winter seasons, $PM_{2.5}$ levels were measured at the Vernal monitoring station that were higher than the PM2.5 health standard that became effective in December 2006. The $PM_{2.5}$ levels recorded in Vernal were similar to other areas in northern Utah that experience wintertime inversions. The sources of elevated $PM_{2.5}$ concentrations during winter inversions in Vernal, Utah haven't been identified as of yet. The most likely causes of elevated $PM_{2.5}$ at the Vernal monitoring station are probably those common to other areas of the western U.S. (combustion and dust) plus nitrates and organics from oil and gas activities in the Basin. $PM_{2.5}$ monitoring that has been conducted in the vicinity of oil and gas operations in the Uinta Basin by the Red Wash and Ouray monitors beginning in summer 2009 have not recorded any exceedences of either the 24 hour or annual NAAQS. Monitoring for $PM_{2.5}$ is currently ongoing in the Uinta Basin.

HAPs are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental impacts. The EPA has classified 187 air pollutants as HAPs. Examples of listed HAPs associated with the oil and gas industry include formaldehyde, benzene, toluene, ethylbenzene, isomers of xylene (BTEX) compounds, and normal-hexane (n-hexane). There are no applicable Federal or State of Utah ambient air quality standards for assessing potential HAP impacts to human health.

3.1.1.1. Greenhouse Gas

Greenhouse gases keep the planet's surface warmer than it otherwise would be. However, as concentrations of these gases increase the Earth's temperature is climbing above past levels. According to NOAA and NASA data, the Earth's average surface temperature has increased by about 1.2º to 1.4º F in the last 100 years. The eight warmest years on record (since 1850) have all occurred since 1998, with the warmest year being 1998. However, according to the British Meteorological Office's Hadley Centre (BMO 2009), the United Kingdom's foremost climate change research center, the mean global temperature has been relatively constant for the past nine years after the warming trend from 1950 through 2000. Predictions of the ultimate outcome of global warming remain to be seen.

The analysis of the Regional Climate Impacts prepared by the U.S. Global Change Research Program (USGCRP) (2009) suggests that recent warming in the region (including the project area) was nationally among the most rapid. Past records and future projections predict an overall increase in regional temperatures, largely in the form of warmer nights and effectively higher average daily minimum temperatures. They conclude that this warming is causing a decline in spring snowpack and reduced flows in the Colorado River. The USGCRP projects a region-wide decrease in precipitation, although with substantial variability in interannual conditions. For eastern Utah, the projections range from an approximate 5 percent decrease in annual precipitation to decreases as high as 40 percent of annual precipitation.

3.1.2. Designated Areas: Areas of Critical Environmental Concern

Areas of Critical Environmental Concern (ACEC)s are special management areas designated by BLM to protect significant historic, cultural, or scenic values; fish and wildlife resources; natural

process or systems; and/or natural hazards that have more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource. ACECs have qualities or circumstances that make them fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change. They have been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of Federal Land Management and Practices Act (FLMPA) and have qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare.

Potential ACECs must meet the following criteria:

Relevance - presence of a significant historic, cultural, or scenic value; fish or wildlife resource or other natural process or system; or natural hazard; and

Importance - the above described value, resource, process, system, or hazard shall have substantial significance and values. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern.

The following ACEC area located within the project area:

Lower Green River ACEC

Parcels 135 and 126 occur within the Lower Green River (8,470 acre) ACEC. The Lower Green River ACEC's relevance and importance (R & I) values include:

- Riparian habitat
- Scenery

Nine Mile Canyon ACEC

Parcels 11, 121, 122 and 126 are located within the Nine Mile Canyon (44,168 acre) Area of Critical Environmental Concern (ACEC). Nine Mile Canyon ACEC's relevance and importance (R & I) values include:

- Cultural Resources
- High Value Scenery
- Special Status Species

3.1.3. Designated Areas: Wild and Scenic Rivers

The Wild and Scenic Rivers Act established legislation for a National Wild and Scenic Rivers System (NWSRS) to protect and preserve designated rivers in their free flowing condition, as well as their immediate environments. It contains policy for managing designated rivers, and for designating additional rivers into the national system. The first step in the Wild and Scenic Rivers WSR study process is to determine which river segments meet eligibility criteria. To be eligible, a river segment must be free-flowing and possess one or more outstandingly remarkable values (ORV). ORVs may be scenic, recreational, geological, fish or wildlife related, historic, cultural, botanical, hydrological, or paleontological. ORVs must be of a quality or scarcity that

makes them unique, rare, or exemplary within the region. In addition, rivers must have sufficient water quality to support those values.

The second step in the WSR study process is the determination of suitability. Rivers determined to be eligible for inclusion into the NWSRS are further evaluated to determine their suitability for inclusion into the national system. Suitability studies consider trade-offs between corridor development and river protection. The Vernal RMP evaluated impacts that would result if the eligible rivers within the field office were determined suitable and managed to protect their free-flowing nature, tentative classification , outstandingly remarkable values, and water quality. Upon completion of the RMP, the following two river segments of the Green River totaling approximately 52 miles of river were to be carried forward as suitable for inclusion into the NWSRS:

- The Upper Green River Segment (22 miles / 7,040 acres) extending from Little Hole Boat Ramp to the Utah State line. The river's scenic, recreational, fish and wildlife habitat and cultural historic values were identified as outstandingly remarkable.
- The Lower Green River Segment (30 miles / 9,600 acres) extending from the public land boundary south of Ouray to the Carbon County line. Recreational and fish values were identified as outstandingly remarkable on this segment of the Green River.

Parcels (ID#)126, 134, 135, and 132 are located within the WSR suitable segment of the Lower Green River. Management prescriptions outlined in the RMP include:

- Oil and Gas Leasing — No Surface Occupancy
- Mineral Materials — Closed
- VRM — Class II

3.1.4. Lands with Wilderness Characteristics

Non-WSA lands with wilderness characteristics are areas having at least 5,000 acres in a natural or undisturbed condition, and provide outstanding opportunities for solitude and/or primitive forms of recreation. This information is documented in an April 2007 wilderness characteristics review completed by the Vernal FO (BLM 2007) and further discussed in the Vernal RMP. Non-WSA lands approved in the RMP to be managed for the protection of their wilderness characteristics were carried forward as BLM Natural Areas.

3.1.4.1. Archy Bench A Wilderness Character Inventory Uni

The northern potions of parcel 196 occur within the Archy Bench A Wilderness Character Inventory Unit (6,737 Acres). This area was found to posses wilderness characteristics during an interdisciplinary review conducted in July of 2011. The RMP did not carry this area forward for the protection and preservation of wilderness characteristics.

3.1.4.2. Badlands Cliff Inventory Unit

Parcels 116, 121 and 122 occur within the Badlands Cliffs inventory unit (7,442 Acres) non-WSA lands with wilderness characteristic. The RMP did not carry forward this area for protection,

preservation, or maintenance of its wilderness characteristics as a Natural Area. The Badlands Cliff inventory unit was reviewed by an interdisciplinary team during the GASCO EIS (5/24/12) and at that time was found to contain wilderness character. This unit is located on the mesa tops above Nine Mile Canyon to the north of the Desolation Canyon BLM Natural Area.

3.1.4.3. Desolation Canyon Wilderness Character Inventory Unit

Portions of parcels 118, 121, 122, 126, 134 and 137 occur within the Desolation Canyon Wilderness Character Inventory Unit (63,118 Acres). This inventory unit was not carried forward in the RMP because it was considered high potential for oil and gas development and approximately 66% of the total unit was leased for Oil and Gas development at the time of the RMP review.

3.1.4.4. Lower Bitter Creek Inventory Unit

The southern portions of parcel 196 occur within the Lower Bitter Creek Wilderness Character Inventory Unit (11,417 Acres). This area was found to posses wilderness characteristics but was not carried forward as a BLM Natural Area in the RMP because of the high potential for oil and gas development and the large portion of the inventory unit being leased at the time of the RMP signing.

3.1.4.5. White River Inventory Unit

Portions of parcels 195, 214, and 216, occur within the boundary of White River non-wilderness lands with character inventory unit (21,210 Acres). The White River inventory unit was carried forward as a BLM Natural Area but with a reduction in acreage from 21,210 to 6,680. All of the proposed parcels fall outside of the BLM Natural Area boundary with portions located within the White River lands with wilderness characteristics inventory unit. The acreage not carried forward as a BLM Natural Area was considered to have high potential of oil and gas development with significant interest in additional leasing.

All other parcels and portions of parcels occur in inventory units found not to possess wilderness characteristics.

3.1.5. Livestock Grazing & Rangeland Health Standards

The following specific parcels were considered for the EA with possible effects to Livestock Grazing and Rangeland Health standards:

UT-1114-7599-050	UT-1114-7662-119	UT-1114-7719-177
UT-1114-7600-051	UT-1114-7663-121	UT-1114-7566-179
UT-1114-7657-107	UT-1114-7664-122	UT-1114-7731-195
UT-1114-7548-109	UT-1114-7667-126	UT-1114-7732-196
UT-1114-7549-110	UT-1114–7673–132	UT-1114-7795-209
UT-1114-7551-112	UT-1114–7675–134	UT-1114-7747-216
UT-1114-7552-113	UT-1114–7678–137	UT-1114-7748-217
UT-1114-7553-114	UT-1114–7679–157	UT-1114-7749-218
UT-1114-7659-116	UT-1114-7703-163	UT-1114-7781-254
UT-1114-7661-118	UT-1114-7518-176	

The allotments the lease parcels covers would range from desert salt shrub, sage steppe to forested lands. Numerous areas consist of small to large ephemeral drainages, and some border the Green River. Elevation ranges from around 5,000 feet to upwards of 7,000 feet in elevation. Most areas are located within the 5–8 inch annual precipitation zone, some areas receive more precipitation. Soils are generally desert sand loam, gravelly sandy loam, and semi-desert shallow loams with scattered areas of clays, sands, and badland type sand stone and rock outcrops. Most allotments have had Rangeland Health Assessments done during the last five years. Numerous allotments identified within the lease sale will have grazing permits processed through site-specific NEPA documents analyzing the current and on-going oil and gas activities.

3.1.6. Recreation

The BLM's basic units of recreation management are the Special Recreation Management Area (SRMA) and the Extensive Recreation Management Area (ERMA). A SRMA is an area where recreation is emphasized. Within an ERMA, recreation is generally unstructured and dispersed, minimal recreation-related investments are required, and there are minimal regulatory constraints. ERMAs generally cover all areas that are not designated as SRMAs. Popular recreational destinations in the project area include the Nine Mile SRMA, the White River and the developed BLM recreation site at Sand Wash including the boat ramp for Desolation Canyon and associated developed recreation facilities. The BLM Special Recreation Permit (SRP) holder Second Nature also operates several assigned campsite within the project area that are used to host wilderness therapy youth groups.

3.1.6.1. Nine Mile - Special Recreation Management Area (SRMA)

Parcels 116, 118, 121, 122 and 126 are located within the Nine Mile SRMA. Visitors to this area engage in an array of recreation activities that include backpacking, camping, dirt biking, enjoying natural and cultural features, four wheel driving, hiking, horseback riding , hunting , mountain biking, OHVing, rock climbing, and scenic driving, among others. The Nine Mile SRMA is managed to protect high-value cultural values and scenic quality.

3.1.6.2. Second Nature assigned Campsites (considered part of the Vernal ERMA)

Second Nature is the largest revenue generating Special Recreation Permit (SRP) holder currently operating on lands managed by the Vernal Field Office. They currently have assigned campsites located within lease parcels 51, 109, 110, 112, 113, and 114. These campsites are used to host youth group during wilderness therapy sessions. Wilderness therapy is a subset of adventure-based therapy. It is the use of wilderness expeditions for the purpose of therapeutic intervention. There are a range of different types of wilderness therapy programs, with a range of models and approaches. Some grow out of a survival approach and their aim is to guide participants toward self-reliance and self-respect.

3.1.6.3. White River Corridor (considered part of the Vernal ERMA)

Parcel 214 is located on both sides of the White River. No special RMP designation exists for this section of White River. The river provides recreational opportunities for river rafters,

hikers, waterfowl hunters and bird watchers. In addition, currently three outfitters and guides are operating under Special Recreation Permit on this section of the White River.

3.1.7. Visual Resources

The BLM uses a Visual Resource Management (VRM) system to inventory and manage visual resources on public lands. The primary objective of VRM is to manage visual resources so that the quality of scenic (visual) values is protected. The VRM system uses four classes (and their associated visual resource objectives) to describe the different degrees of surface disturbance or modification allowed on the landscape (see Table below)

Table 3.2. BLM Visual Resource Management (VRM) Class Objectives

VRM Class	VRM Objective
Class I	The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and should not attract attention.
Class II	The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
Class III	The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
Class IV	The objective of this class is to provide for management activities, which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of the landscape.

The proposed lease parcels would encompass several different VRM management classes as listed in the following table:

Table 3.3. Lease Parcels ID and associated VRM Classes

VRM Class	Parcel ID
Class I	
Class II	116, 118, 121, 122, 126, 132,134, 135, 137, 214, and 216
Class III	110, 118, 121, 122, 132, 153, 155, 157, 163, 169, 176, 177, 179, 209, 214, 216, 217, 218, and, 254.
Class IV	All remaining parcels

3.1.8. Wildlife: Migratory Birds including Raptors

All of the lease parcels contain nesting and foraging habitat for migratory birds. The Migratory Bird Treaty Act of 1918 protects migratory birds and their parts. Executive Order 13186, signed on January 10, 2001, directs federal agencies to evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern. Birds of Conservation Concern (USFWS 2002) identify the migratory bird species of concern in different Bird Conservation

Regions (BCRs) in the United States. The parcels are within BCR 16 (Southern Rockies/Colorado Plateau). Species lists for BCR16 have been reviewed and the potential exists for several migratory bird species, currently designated as species of concern, to nest within the parcels, primarily between April and September. Additional discussion is contained in Section 3.3.11.

3.1.8.1. Raptors

Raptors, including the red-tailed hawk, Cooper's hawk, sharp-shinned hawk, American kestrel, northern harrier, great horned owl, and other less common species utilize each of the habitat types within the lease parcels and may be present year round or seasonally. Nesting tends to be concentrated around cliffs, large trees, embankments, and other habitat features. Raptor management is guided by BLM's Best Management Practices for Raptors and Their Associated Habitats in Utah (2006). These are best management practices which are BLM-specific recommendations for implementation of the U.S. Fish and Wildlife Service, Utah Field Office's "Guidelines for Raptor Protection from Human and Land Use Disturbances" (Guidelines). The Guidelines were originally developed by the Fish and Wildlife Service in 1999, and were updated in 2002 based on recent court rulings, policy decisions, and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. The Guidelines were provided to BLM and other land-managing agencies to provide raptor management consistency while ensuring project compatibility with the ecological requirements of raptors. The best management practices include timing limitations and controlled surface measures to protect raptor species. **Table 3.1** identifies sensitive raptor species potential occurrence and habitat within the parcels.

3.1.9. Wildlife: Non-USFWS Designated

3.1.9.1. Elk

Parcels 50, 51, 107, 109, 110, 112, 113, 114, 116, 126, 173, 217, 218, and 254 are in rocky mountain elk crucial wintering and calving habitat. Elk occur year-round in the project area in low numbers. Crucial habitat provides shelter and forage for elk during critical times of the year. Resident elk use the low-elevation water resources, such as the Green River.

3.1.9.2. Mule Deer

Parcels 126, 132, 134, 137, 153, 155, 156, 157, 163, 169, 174, 176, 177, 217, 214, 218 and 254 are within crucial winter and fawning range for mule deer. Crucial range provides unique habitat for deer. The function of crucial winter range is to provide shelter and forage to big game, ensuring their survival during periods of significant winter and fawning stress. Mule deer populations in the western U.S. have historically fluctuated due to environmental factors (e.g., drought, severe winters). Deer populations in eastern Utah have declined in recent years. Unusually high deer mortalities in the 1980s and 1990s are primarily attributed to the severe, 1983-1984 and 1992-1993 winters, and to a prolonged, seven-year drought between 1986 and 1992. These conditions decimated the fawn population as well as a large percentage of the adult deer. A very slow recovery of the deer population has occurred since that time. Fawn production and survival, which continued to be low through 1996, began to improve after 1996 with good forage and winter conditions. The current drought is causing severe stress to mule deer, once again reducing their populations and limiting the forage on which they depend. However, these are environmental factors that are beyond human control. Factors within human control that

affect the population of mule deer in the area include hunting, grazing, energy development, increased recreation, and predation.

3.1.10. Wildlife: Threatened, Endangered, Proposed or Candidate

BLM manages sensitive species in accordance with BLM Manual 6840 with the objective to initiate proactive conservation measures that reduce or eliminate threats to these species to minimize the likelihood of and need for listing of these species under the ESA. Special status species are, collectively, the federally listed or proposed and Bureau sensitive species, which include both Federal candidate species and delisted species within 5 years of delisting. There are 57 BLM Utah sensitive species, including 12 species under conservation agreement and 4 candidate species. Of these, 52 species occur or potentially occur within the VFO. The Utah sensitive species lists also includes federally listed species. VFO has used available data sources to determine if potential lease parcels fall within known habitat for BLM or UDWR sensitive species. After site-specific review, it has been determined that the threatened, endangered, candidate and sensitive species listed in **Table 6** may occur within the project area or be affected by the proposed action.

Table 3.4. Threatened, Endangered, Candidate, or Sensitive Animal Potential Occurrence

Species	Status	Potential Occurrence and Habitat Type	Parcels
Fish			
Bonytail Chub, Colorado Pikeminnow, Humpback Chub, Razorback Sucker	Endangered	These species occur in the Green River. Habitat is not present within the proposed project area; however, water depletion is anticipated to occur.	All parcels
Bluehead Sucker, Flannelmouth Sucker, Roundtail Chub	Conservation Agreement Species	These species occur in the Green River. Habitat is not present within the proposed project area; however, water depletion is anticipated to occur.	All parcels
Mammals			
Townsend's Big-Eared Bat, Big Free-Tailed Bat, Spotted Bat, Fringed Myotis, Allens Big Eared Bat, Western Red Bat	BLM Sensitive	These species potentially occur throughout Utah; however, no occurrence records exist for the extreme northern or western parts of the state. Known occurrences have been reported in northeastern Uintah County. Habitat is present within the proposed project area.	All parcels

Black-footed Ferret	Endangered	Utilizes prairie dog burrows for shelter and feed on the prairie dogs. Populations of Black-footed ferrets have been introduced into the wild in Coyote Basin, in Uintah County area ferrets are characterized as "non-essential experimental" populations (UDWR 2007).	209
White-tailed Prairie Dog	BLM Sensitive	Desert grasslands and shrub grasslands. Prairie dogs within parcel # 209 are in the Coyote Basin Complex.	209
Raptors			
Golden Eagle	BLM Sensitive, Bird of Conservation Concern	Throughout the summer, golden eagles are found in mountainous areas, canyons, shrub-land and grassland. During the winter they inhabit shrub-steppe vegetation, as well as wetlands, river systems and estuaries. Golden eagles are quite common to Uintah County. All parcels contain foraging habitat however no known nest exist within them.	All parcels
Bald Eagle	BLM Sensitive, Bird of Conservation Concern	Throughout the winter, bald eagles are typically found near rivers, lakes, and marshes where unfrozen, open waters offer the opportunity to prey on fish and waterfowl. The Colorado and Green River corridors are well used by Utah's wintering bald eagles. The eagles begin to arrive in November.	126, 132, 134, 135, 137, 163, 174, 176, 177, 214, and 216
Mexican Spotted Owl	Threatened	In Utah, found primarily in rocky canyons. Nests in caves or crevices. Roosts on ledges or in trees in canyons. The species prefers mesic (moister/cooler) canyons with mixed conifer or riparian components.	126, 169, and 173

Ferruginous Hawk	BLM Sensitive, Bird of Conservation Concern	This species is known to occur in the West Desert and the Uinta Basin as a summer resident and a common migrant. Within the Uinta Basin, the species is more associated with prairie dog colonies as the main prey base. These parcels contain foraging habitat however no known or documented ferruginous hawk nests are within ½ mile of the proposed project.	107, 109, 110, 112, 119, 124, 133, and 209
Burrowing Owl	BLM Sensitive	Inhabits dry, open habitat that has short vegetation and contains an abundance of prairie dog burrows.	209
Short-eared Owl	Wildlife Species of Concern	Inhabits arid grasslands, agricultural areas, marshes, and occasionally open woodlands. In Utah, cold desert shrub and sagebrush-rabbit brush habitats also are utilized.	All parcels
Migratory Birds			
Mountain Plover	Bird of Conservation Concern	Dry, disturbed, or intensively grazed, open, flat tablelands, short vegetation and flat topography.	119, 124, and 133
Yellow-billed Cuckoo	BLM Sensitive, Federal Candidate	Riparian obligate and are commonly found in large areas of cottonwood and willow habitat types consisting of dense sub-canopies reaching approximately 33 feet in height.	126, 132, 134, 135, 137, 163, 174, 176, 177, 214, and 216
Gray Vireo	Bird of Conservation Concern	Dry shrubby areas, chaparral, and sparse woodlands. Habitat is present within the proposed project area.	All parcels
Grasshopper Sparrow	Bird of Conservation Concern	In Utah, the species is widespread and has been known to breed in Uintah, Duchesne, and Daggett counties. Habitat is present within the proposed project area.	All parcels

Bobolink	Wildlife Species of Concern	Short grass prairies, alpine meadows, riparian woodlands, and reservoir habitats.	126, 132, 134, 135, 137, 163, 174, 176, 177, 214, and 216
Brewer's Sparrow	Bird of Conservation Concern	Desert and shrubland/ chaparral. Habitat is present within the proposed project area.	All parcels

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Chapter 4. Environmental Effects:

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This chapter discusses the environmental consequences of implementing the alternatives described in Chapter 2. Under NEPA, actions with the potential to affect the quality of the human environment must be disclosed and analyzed in terms of direct and indirect effects—whether beneficial or adverse and short or long term—as well as cumulative effects. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects are caused by an action but occur later or farther away from the resource. Beneficial effects are those that involve a positive change in the condition or appearance of a resource or a change that moves the resource toward a desired condition. Adverse effects involve a change that moves the resource away from a desired condition or detracts from its appearance or condition. Cumulative effects are the effects on the environment that result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions.

The No Action alternative (offer none of the nominated parcels for sale), serves as a baseline against which to evaluate the environmental consequences of the Proposed Action alternative (offer of 41 parcels for sale with additional resource protective measures). For each alternative, the environmental effects are analyzed for the resources that were carried forward for analysis in Chapter 3.

4.1. Issues Carried Forward for Analysis

4.1.1. Alternative A – Proposed Action

This section analyzes the impacts of the proposed action to those potentially impacted resources described in the Affected Environment (Chapter 3).

4.1.1.1. Air Quality

The act of leasing would not result in changes to air quality. However, should the leases be issued, development of those leases could impact air quality conditions. It is not possible to accurately estimate potential air quality impacts by computer modeling from the project due to the variation in emission control technologies as well as construction, drilling, and production technologies applicable to oil versus gas production and utilized by various operators, so this discussion will remain qualitative. Prior to authorizing specific proposed projects on the subject lease parcels quantitative computer modeling using project specific emission factors and planned development parameters (including specific emission source locations) will need to be conducted to adequately analyze direct and indirect potential air quality impacts. Air quality dispersion modeling which may be required includes impact analysis for demonstrating compliance with the NAAQS, plus analysis of impacts to Air Quality Related Values (i.e. deposition, visibility), particularly as they might affect nearby Class 1 areas (National parks and Wilderness areas).

Although not listed as a NAAQS criteria pollutant, volatile organic compounds (VOC) are also considered in this EA as they, along with NOx, are precursors to the formation of ozone and are listed by UDAQ as a pollutant that, if the threshold is exceeded, would require an approval order.

The Proposed Action is considered to be a minor source under the Clean Air Act. Minor sources are not controlled by regulatory agencies responsible for implementing the Clean Air Act. In addition, control technology is not required by regulatory agencies at this point, since the Uinta Basin is designated as “unclassified” with respect to the NAAQS. The Proposed Action will result

in different emission sources associated with two project phases: well development and well production. Annual estimated emissions from the Proposed Action are summarized in **Table 4.1**.

These parcels occur within the Uinta Basin where an air analysis was completed for the Greater Natural Buttes EIS that addressed regional settings, standards, emissions data (including production and operation values), modeling procedures, assessment/reporting of impacts, and greenhouse gas emissions. BLM is incorporating by reference the relevant portions of the EIS.

This EA addresses mobile off road engine exhaust emissions from drilling activities, venting and flaring emissions from completion and testing activities, and emissions from ongoing production activities. NO_x, SO_2, and CO would be emitted from vehicle tailpipes. Drill rig and fracturing engine operations would result mainly in NO_x and CO emissions, with lesser amounts of SO_2 . These temporary emissions would be short-term during the drilling and completion times. During the operational phase of the Proposed Action, NO_X, CO, VOC, and HAP emissions would result from the long-term operation of condensate storage tank vents, and well pad separators.

Additionally, fugitive dust emissions, specifically emissions of total particulate matter of less than 10 micrometers (PM10), would occur from heavy construction operations. PM_{10}emissions are converted from total suspended particulates by applying a conversion factor of 25%. $PM_{2.5}$ is not specifically addressed as it is included as a component of PM_{10}. $PM_{2.5}$ is converted from $PM_{10}$by applying a conversion factor of 15%. This EA does not consider mobile on road emissions as they are dispersed, sporadic, temporary, and not likely to cause or contribute to an exceedance of the NAAQS.

Table 4.1. Anticipated Emissions [1]

Pollutant	Development	Production	Total
NO_x	14.2	2.2	16.4
CO	3.2	3.2	6.4
VOC	2.5	6.5	9.0
SO_2	0.9	0	0.9
PM_{10}	0.7	0.03	0.73
$PM_{2.5}$	0.3	0.01	0.31
Benzene	0.03	0.13	0.16
Toluene	0.02	0.09	0.11
Ethylbenzene	0.02	0.22	0.24
Xylene	0	0.07	0.07
n-Hexane	0.05	0.08	0.13
Formaldehyde	0	0	0

1 Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Emissions of NO_x and VOC, ozone precursors, are estimated to be 16.4 tons/yr for NO_x, and 9.0 tons/yr of VOC (**Table 4.1**) per well. Project emissions of ozone precursors would be dispersed and/ or diluted to the extent where any local ozone impacts from the Proposed Action would be indistinguishable from background conditions. The primary sources of HAPs are from oil storage tanks and smaller amounts from other production equipment. Small amounts of HAPs are emitted by construction equipment. However, these emissions are estimated to be less than 1 ton per year.

Greenhouse Gases

The assessment of greenhouse gas emissions and climate change remains in its earliest stages of formulation. Applicable EPA rules do not require any controls and have yet to establish any

emission limits related to GHG emissions or impacts. The lack of scientific models that predict climate change on regional or local level prohibits the quantification of potential future impacts of decisions made at the local level, particularly for small scale projects such as the Proposed Action. Leasing would not impact greenhouse gases. However, drilling and development activities from the Proposed Action development assumption are anticipated to release a negligible amount of greenhouse gases into the local air-shed.

Application of Stipulations UT-S-01 and Notice UT-LN-96 to each of the parcels on federal surface would be adequate for the leasing stage to disclose potential future restrictions and to facilitate the reduction of potential impacts upon receipt of a site specific APD.

4.1.1.2. Designated Areas: Areas of Critical Environmental Concern

4.1.1.2.1. Lower Green River Corridor ACEC

The issuance of leases would not directly impact the ACEC's relevant and important values. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. UT-S-22 and UT-LN-115 would be applied.

The Lower Green River Corridor ACEC will continue to be managed for the protection of the riparian habitat and scenery. No surface occupancy (NSO) would be allowed within line of sight or up to one-half mile form the centerline of the Green River, whichever is less. This would minimize impacts to riparian habitat. Impacts to the R&I value of scenery are explained in greater detail in the VRM section of this document.

Table 4.2. Applicable Lease Stipulations for the Lower Green River Corridor ACEC

ACEC	Lease Notice or Stipulations	Parcels
Lower Green River Corridor ACEC	UT-S-22 No Surface Occupancy/ Controlled Surface Use/ Timing Limitations	126, 135
Lower Green River Corridor ACEC	UT-LN-115 Light and Sound	126, 135

4.1.1.2.2. Nine Mile Canyon ACEC

The issuance of leases would not directly impact the ACEC's relevant and important values. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur. No surface occupancy and controlled surface use stipulation UT-S-23 would be applied within the ACEC and mitigate impacts of that oil and gas development on other resource values. .

The Nine Mile Canyon ACEC was carried forward in the Vernal RMP to enhance cultural and special status plant species while enhancing scenic vistas, recreation, and wildlife resource values. The relevant and important values are cultural resources, special status species, and high quality scenery. For a detailed explanation of impacts to other resources please refer to Chapter 3 and Appendix C of this document. The R&I value of scenery only applies within the Nine Mile Canyon itself and is protected by VRM Class II objectives from canyon rim to canyon rim within the river corridor. Because scenic R&I values are not attributed to areas above the rim, the

Approved Resource Management Plan states on pg. 41 that, “there is no need to restrict oil and gas leasing for visual purpose” above the canyon rim.

Table 4.3. Applicable Lease Stipulations for the Nine Mile Canyon ACEC

ACEC	Lease Notice or Stipulations	Parcels
Nine Mile Canyon ACEC	UT-S-23 - No Surface Occupancy/Controlled Surface use	116, 118, 121, 122 and 126

4.1.1.3. Designated Area: Wild and Scenic Rivers

The issuance of leases would not directly impact the outstandingly remarkable values or the tentative scenic classification of the WSR suitable segment of the Lower Green River. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued with a No Surface Occupancy (NSO) stipulation, without a NSO stipulation the issuance of leases does convey an expectation that drilling and development would occur. NSO stipulations UT-S-117 and UT-S-119 would be applied within WSR suitable segments.

Development of leased parcels within the Lower Green River Corridor could result in negative impacts to the overall recreational experience. The sights and sounds of both the installation and operations of oil and/gas wells may be observed from the Lower Green River depending on site location within the river corridor. These impacts would be minimized through the implementation of the following lease stipulations:

Table 4.4. Lease Stipulations Applicable to the Lower Green River WSR Suitable Section

Lower Green River Corridor	UT-S-117 - NO SURFACE OCCUPANCY – RIVER CORRIDORS	126, 132, 134, and 135
Lower Green River Corridor	UT-S-119 - NO SURFACE OCCUPANCY – LOWER GREEN RIVER CORRIDOR	126, 132, 134, and 135
Lower Green River Corridor	UT-LN-115 — LIGHT AND SOUND	126, 132, 134, and 135

For analysis of impact to the outstandingly remarkable values of fisheries within the Lower Green River WSR suitable segment please refer to the wildlife section of this document.

4.1.1.4. Lands with Wilderness Characteristics

Although the issuance of the lease would not directly impact the wilderness characteristics of the area, the potential drilling and development for oil and gas that may occur following lease issuance could impact wilderness character. In the event that drilling and development were to occur in areas of the parcels possessing wilderness characteristics, wilderness characteristics in that area would be lost. Impacts could include loss of naturalness and loss of opportunities for solitude or primitive unconfined recreation. Additional impacts could include loss of size that may occur from development should the proposed development segregate portions of the wilderness characteristics less than 5,000 acres from the main body a of wilderness characteristics area. These potential impact to wilderness characteristics as a result of oil and gas development were anticipated in the Vernal RMP which it states on pg.33 and 34 that some areas were not selected to be BLM Natural Areas and therefore were not selected to be managed for the purpose

of preserving wilderness values because they possess high potential for oil and gas resources and large portions of the land were already under lease for oil and gas development. Where development occurs, wilderness characteristics would be lost.

4.1.1.4.1. Archy Bench A Wilderness Character Inventory Unit

The northern potions of parcel 196 occurs within the Archy Bench A Wilderness Character Inventory Unit (6,737 Acres). This portion of the lease parcel represents approximately 127 acres or around 2% of the inventory unit. Leasing this parcel within the Archy Bench A Wilderness Character Inventory Unit could result in the loss of wilderness character in upwards of an additional 2% of the unit. However, potential impacts to wilderness characteristics would be mitigated by the stipulations that would be attached to the parcels if leased (See Appendix A for all stipulations attached to the subject parcels)

4.1.1.4.2. Badlands Cliff Inventory Unit

Parcels 116, 121 and 122 occur within the Badlands Cliffs inventory unit (7,442 Acres) non-WSA lands with wilderness characteristic. These lease parcels (or portions of parcels) represents approximately 1,086 acres or around 15% of the inventory unit. Leasing these parcels within the Badlands Cliff Inventory Unit could result in the loss of wilderness character in upwards of an additional 15% of the unit. However, potential impacts to wilderness characteristics would be mitigated by the stipulations that would be attached to the parcels if leased (See Appendix A for all stipulations attached to the subject parcels)

4.1.1.4.3. Desolation Canyon Wilderness Character Inventory Unit

Portions of parcels 118, 121, 122, 126, 134, and 137 occur within the Desolation Canyon Wilderness Character Inventory Unit (63,118 Acres). These lease parcels (or portions of parcels) represents approximately 7,798 acres or around 12% of the inventory unit. Leasing these parcels within the Desolation Wilderness Character Inventory Unit could result in the loss of wilderness character in upwards of an additional 12% of the unit. However, potential impacts to wilderness characteristics would be mitigated by the stipulations that would be attached to the parcels if leased (See Appendix A for all stipulations attached to the subject parcels).

4.1.1.4.4. Lower Bitter Creek Inventory Unit

The southern portions of parcel 196 occurs within the Lower Bitter Creek Wilderness Character Inventory Unit (11,417 Acres). This portion of the lease parcel represents approximately 351 acres or around 3% of the inventory unit. Leasing these parcels within the Lower Bitter Creek Inventory Unit could result in the loss of wilderness character in upwards of an additional 3% of the unit. However, potential impacts to wilderness characteristics would be mitigated by the stipulations that would be attached to the parcels if leased (See Appendix A for all stipulations attached to the subject parcels).

4.1.1.4.5. White River Inventory Unit

Portions of parcels 195, 214, and 216 occur within the boundary of White River non-wilderness lands with character inventory unit (21,210 Acres). These lease parcels (or portions of parcels)

represents approximately 1,017 acres or around 5% of the inventory unit. Leasing these parcels within the White River Inventory Unit could result in the loss of wilderness character in upwards of an additional 5% of the unit. However, potential impacts to wilderness characteristics would be mitigated by the stipulations that would be attached to the parcels if leased (See Appendix A for all stipulations attached to the subject parcels). It should be noted that none of these parcels occur within the White River Natural Area.

All other parcels and portions of parcels occur in inventory units found not to possess wilderness characteristics. This determination was verified during site visits to the parcels in March and April of 2014

4.1.1.5. Livestock Grazing and Rangeland Health

Under the proposed action for the lease sale, livestock grazing would continue; however, loss of forage and possible reductions of AUMs would occur in the allotments due to disturbance and activity. Livestock movement patterns would be hindered by new roads and oil well pads. Increased traffic may lead to an increase in vehicle livestock collisions, and increasing mortality rates. Invasive weeds would be expected to increase along new roads and throughout well pads; past reclamation efforts have not been successful in eradication of invasive species or in obtaining the seral state of ecological site descriptions for those areas before disturbance occurred. Topsoil erosion would occur which would increase sediment loading within riparian areas and decrease viable soils for plant communities. Channelization would occur along roads.

Rangeland Health Assessments have been taken on these allotments in key areas for years. Some of these key areas will be lost due to disturbance and Oil and Gas activity. Data will be and has been lost due to surface disturbance. New areas will have to be targeted as key areas for these allotments. Mitigation may need to take place on a site specific basis where Range Improvement Projects (RIPs) exist. This should include a 200 meter buffer from all RIPs. Depending on amount of disturbance, compensatory adjustments may be needed if AUMs are reduced on livestock operations. Compensatory adjustments would be looked at on a case by case basis at the Environmental Assessment level for the allotments.

4.1.1.6. Recreation

4.1.1.6.1. Nine Mile SRMA- Parcel 338, 342, 354, 355, 364, and 365

The issuance of lease parcels 116, 118, 126, 121, and 122, would not directly impact the Nine Mile SRMA. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued with a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur.

Should construction and drilling occur, the sights and sounds associated with the development of the oil and gas related activities would be apparent to visitors participating in recreation related activities. The noise of construction and operation of producing wells, including the presence of work crews, vehicles, and equipment, would reduce primitive recreational opportunities in proximity to development. Impacts from light and sound would be minimized by implementing the RMP management decisions (MIN-5) that state, “The BLM will seek to minimize light and sound pollution within the VPA by using the best available technology such as installation of multi-cylinder pumps, hospital sound-reducing mufflers, and placement of exhaust systems to

direct noise away from noise sensitive areas." The noise sensitive area would be the Nine Mile Canyon itself.

Table 4.5. Nine Mile Canyon SRMA Stipulations

ACEC	Lease Notice or Stipulations	Parcels
Nine Mile Canyon ACEC	UT-S-23 - NO SURFACE OCCUPANCY CONTROLLED SURFACE USE TIMING LIMITATIONS – NINE MILE CANYON ACEC	116, 118, 121, 122, and 126
Nine Mile Canyon SRMA	UT-LN-106 SPECIAL RECREATION MANAGEMENT AREA	116, 118, 121, 122, and 126

4.1.1.6.2. Second Nature assigned Campsites — Parcels 51, 109, 110, 112, 113, and 114

The issuance of lease parcels 51, 109, 110, 112, 113, and 114 would not directly impact BLM Special Recreation Permit (SRP) holder Second Nature. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued with a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur.

If the lease parcels were to be developed in and around Second Natures assigned wilderness therapy campsites, it could be expected that youth enrolled in the wilderness therapy program would lose the primitive experience of camping in an undeveloped sagebrush steppe. There would be a reduction in the availability of firewood if areas adjacent to campsites are cleared for well pads. The sights and sounds associated with the development of the oil and gas related activities would be apparent to be those enrolled in the program and councillors supervising the youth camps. If the oil and gas development within these lease parcels detracts from the accomplishment of the wilderness therapy goals established by Second Nature it could be expected that the BLM will need to relocated the assigned campsites to an area with less development.

Youth currently enrolled in Second Nature's wilderness therapy program could have a higher probability of having undesirable interactions with industrial traffic. In the past, vandalism has occurred on industrial equipment staged in the immediate vicinity of wilderness therapy groups. Attempted escapes through vehicle theft could also potentially occur if vehicles are left unattended in the immediate vicinity of the assigned campsites. Lease notices should note of the location of these assigned campsites.No surface Occupancy lease stipulation UT-S-53 would be applied and mitigate impacts.

Table 4.6. Second Nature's Assigned Campsite Stipulations

Resource	Lease Notice or Stipulations	Parcels
Second Nature's assigned Campsites	UT-S-53 — NO SURFACE OCCUPANCY – DEVELOPED RECREATION SITES	51, 109, 110, 112, 113, and 114
Second Nature's assigned Campsites	UT-LN-115 — LIGHT AND SOUND	51, 109, 110, 112, 113, and 114

4.1.1.6.3. White River Corridor — Parcel 214

The issuance of lease parcel 214 would not directly impact to the recreational resources found along the affected stretch of the White River. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued with a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur.

Impacts to river recreationists could include visual and noise impacts associated with wells located on the cliffs above the White River floodplain. Construction and operation of oil and gas related structures and equipment could create a visual intrusion on the recreational experience (e.g., feelings of satisfaction) sought by recreationists who value unobstructed viewsheds and relatively natural settings for their activities. In addition to obstructed viewsheds, the potential impacts to recreationists satisfaction could include odors and noise from generators. Impacts from light and sound would be minimized by implementing the RMP management decisions (MIN-5) that state, "The BLM will seek to minimize light and sound pollution within the VPA by using the best available technology such as installation of multi-cylinder pumps, hospital sound-reducing mufflers, and placement of exhaust systems to direct noise away from noise sensitive areas." The noise sensitive area would be the White River. No Surface Occupancy lease stipulation UT-S-120 would be applied and would mitigate impacts.

Table 4.7. White River Stipulations

Resource	Lease Notice or Stipulations	Parcels
White River Corridor	UT-S-120 - NO SURFACE OCCUPANCY – WHITE RIVER CORRIDOR	214
White River Corridor	UT-LN-115 LIGHT AND SOUND	214

4.1.1.7. Visual Resources

The issuance of leases would not directly impact Visual Resources. However, as the BLM generally cannot deny all surface use of a lease unless the lease is issued as a No Surface Occupancy stipulation, the issuance of leases does convey an expectation that drilling and development would occur.

For the purposes of this analysis, impacts to visual resources would be considered relevant if the impacts of the proposed project do not conform to an area's designated visual resource management (VRM) class objectives. Short-term impacts are those that would affect visual resources for fewer than five years; long-term impacts would affect visual resources for more than five years. The potential direct adverse impacts to visual resources would include the visual contrasts created by construction equipment, pipelines, well pads, temporary and permanent access roads, and other forms of infrastructure associated with oil and gas exploration and development. In general, drilling rigs and equipment, construction and maintenance vehicles, development infrastructure, and surface disturbance, including roads, would impact an area's scenic quality and appearance of naturalness with human-made form, color, and linear contrasts. A visual contrast rating process will be used for the VRM analysis, which involves comparing the project features with the major features in the existing landscape to determine whether the Scenic Values of the BLM managed lands within each parcel have been maintained. Applicable lease stipulation include the following:

Table 4.8. General VRM Stipulations

VRM Class	Lease Notice or Stipulations	Parcels
All	UT-S-157 – No Surface Occupancy/Controlled Surface Use Timing Limitations - Visual Resources	All Parcels
Class II	Controlled Surface Use – Visual Resources – VRM II	116, 118, 121, 122, 126, 132, 134, 135, 137, 214, and 216

4.1.1.8. Wildlife: Migratory Birds including Raptors

The issuance of leases would not directly impact migratory birds and raptors on the nominated parcels. However, the issuance of leases does convey an expectation that construction and drilling could occur. Chapter 3 identifies that migratory birds and raptors occur on all parcels and could be potentially impacted through future actions on leased parcels. In addition to the direct loss and fragmentation of approximately 40,240 acres of habitat associated with the Proposed Action, noise disturbances from increased traffic levels could temporarily displace migratory birds and raptors. However, the Lease Stipulation UT-S-261 and Lease Notice UT-LN-45 would mitigate/minimize these impacts. Modifications to a surface plan of operation would be addressed at the APD stage. Bird and raptor surveys would be conducted and utilized prior to any surface disturbing activity.

Application of the migratory bird and raptor lease notices would be adequate for the leasing stage to disclose potential restrictions to reduce potential impacts. Appropriate lease stipulations and notices have been included within the Proposed Action to protect habitat values (see Appendix A). Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received.

4.1.1.9. Wildlife: Non USFWS Designated

The issuance of leases would not directly impact fish and wildlife resources on the nominated parcels. Chapter 3 identifies species and habitats which could be potentially impacted through future actions on leased parcels. Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received, however for both general fish and wildlife, impacts are assumed to include the direct loss and fragmentation of 40,240 acres of habitat upon construction of a well pad with its associated road and pipeline. In addition, noise disturbances from increased traffic levels could temporarily displace wildlife species.

Appropriate lease stipulations and notices have been included within the Proposed Action to protect wildlife habitat values (see Appendix A). **Table 4.9** identifies applicable big game stipulations by parcel.

Table 4.9. General Wildlife Stipulations

Species	Stipulations	Parcels
Crucial deer winter	UT-S-230 TL-Crucial Deer and Elk Winter Range UT-S-231 CSU-Crucial Deer Winter Range	126, 155, 156, 157, 169, 217, 218, and 254
Crucial elk calving	UT-S-247 TL-Crucial Deer Fawning & Elk Calving Habitat	50, 51, 107, 109, 110, 112, 113, 114, and 116
Crucial elk winter	UT-S-230 TL-Crucial Deer and Elk Winter Range	126, 173, 217, 218, and 254
Crucial deer fawning	UT-S-247 TL-Crucial Deer Fawning & Elk Calving Habitat	126, 132, 134, 137, 153, 163, 174, 176, 177, and 214

4.1.1.10. Wildlife: Threatened, Endangered, Proposed or Canidate

The issuance of leases would not directly impact threatened, endangered, candidate, or sensitive animal species or habitat. However, the issuance of leases does convey an expectation that

construction and drilling could occur. Chapter 3 identifies species and habitats which could be potentially impacted through future actions on leased parcels. Project-specific impacts relating to future authorizations cannot be analyzed until an exploration or development application is received, however it is assumed to include the direct loss and fragmentation of habitat upon construction of a well pad with its associated road and pipeline. In addition to the direct loss and fragmentation of habitat associated with the Proposed Action, noise disturbances from increased traffic levels, or water depletion (for fish) could temporarily displace wildlife species. Refer to **Table 4.10** for a brief summary of anticipated impacts should development occur.

Table 4.10. Threatened, Endangered, Candidate, or Sensitive Animal Potential Impacts

Species	Potential Impacts
Bonytail Chub, Colorado Pikeminnow, Humpback Chub, Razorback Sucker, Bluehead Sucker, Flannelmouth Sucker, & Roundtail Chub	All parcels have potential for drilling activities to use water from the Green River system. Water depletions reduce the ability of the river to create and maintain the primary constituent elements that define critical habitats. Food supply, predation, and competition are important elements of the biological environment. Food supply is a function of nutrient supply and productivity, which could be limited by reduction of high spring flows brought about by water depletions. Predation and competition from nonnative fish species have been identified as factors in the decline of the endangered fishes.
Townsend's Big-Eared Bat, Big Free-Tailed Bat, Spotted Bat, Fringed Myotis, Allens Big Eared Bat, & Western Red Bat	Construction of roads and well pads could result in the loss of foraging habitat, making it less suitable for bats. As traffic volumes and/or project-related activities increase, adjacent habitats may be avoided due to human presence, noise, and the potential influx of invasive weeds.
Black-footed Ferret	The direct impacts could include mortality from construction activities resulting in destruction of habitat. Indirect impacts would include fragmentation of habitat, disturbances due to noise from construction and human activities, as well as loss or abandonment of prairie dog colonies.
White-tailed Prairie Dog	The direct impacts could include mortality from construction activities resulting in destruction of habitat. Indirect impacts would include fragmentation of habitat, disturbances due to noise from construction and human activities, as well as loss or abandonment of prairie dog colonies.
Mountain Plover	The proposed action could result in a loss of habitat for plover. Direct impacts to nesting and breeding plover may occur, depending upon the time of construction and drilling. If development occurs in the spring, during the nesting season for plover, impacts would be greater than if development occurred between late summer and late winter. Impacts to birds during the spring could include nest abandonment, reproductive failure, displacement, and destruction of nests.
Golden Eagle, Bald Eagle, Burrowing Owl, Ferruginous Hawk, & Short-eared Owl	Potential effects of the Proposed Action on raptor species include: 1) increased indirect impacts (including poaching and collisions with vehicles), 2) direct loss or degradation of potential nesting and foraging habitats from construction and drilling, and 3) indirect disturbance from human activity (including harassment, displacement, and noise).
Yellow-billed Cuckoo	The impacts could include loss of suitable habitat from construction and drilling. Disturbance due to noise from construction and human activities could cause birds to abandon nests or deter them from nesting in those areas.
Gray Vireo, Grasshopper Sparrow, Brewer's Sparrow, &Bobolink	The proposed action would result in a loss of habitat for migratory birds. Direct impacts to nesting and breeding migratory birds may occur, depending upon the time of construction and drilling. If development occurs in the spring, during the nesting season for most migratory birds, impacts would be greater than if development occurred between late summer and late winter. Impacts to birds during the spring could include nest abandonment, reproductive failure, displacement, and destruction of nests.
Mexican Spotted Owl	Potential impacts include increased human presence; equipment and vehicle use; and surface disturbance in owl habitat. Associated visual and noise disturbance may adversely affect the behavior of owl during breeding, nesting, roosting, or foraging efforts.

The following Endangered Species Act (ESA) related stipulation (in accordance with WO IM - 2002-174) would be applied to all parcels:

> The lease may now and hereafter contain plants, animals, and their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objectives to avoid BLM approved activity that will contribute to a need to list such a species or their habitat. BLM may require modification to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligation under requirements of the Endangered Species Act as amended, 16 U. S. C. § 1531 *et seq*. including completion of any required procedure for conference or consultation.

Table 13 lists all additional lease notices and stipulations that would also be applied to the indicated parcels.

Table 4.11. 13 Threatened, Endangered, Candidate, or Sensitive Animal Stipulations/Notices.

Species	Lease Notice or Stipulations	Parcels	Estimated Acres of Habitat Impacted
Bonytail Chub, Colorado Pikeminnow, Humpback Chub, & Razorback Sucker	T&E-03 Endangered Fish of the Upper Colorado River Drainage Basin UT-LN-49 Utah Sensitive Species	All	Not Applicable
Bluehead Sucker, Flannelmouth Sucker, Roundtail Chub	UT-LN-49 Utah Sensitive Species	All	Not Applicable
Black-footed Ferret	UT-S-299 CSU/TL-Balck Footed Ferret primary management Zone	209	985
White-tailed Prairie Dog	UT-S-218 CSU-White-Tailed Prarie Dog	209	985
Townsend's Big-Eared Bat, Big Free-Tailed Bat, Spotted Bat, Fringed Myotis, Allens Big Eared Bat, & Western Red Bat	UT-LN-49 Utah Sensitive Species	All	40,240
Mountain Plover	UT-LN-30 Utah Sensitive Species	119, 124, and 133	159
Mexican Spotted Owl	T&E-06 NSO/CSU/TL Mexican Spotted Owl	126, 169, and 173	569
Burrowing Owl	UT-S-325 TL-Raptor Nest Sites	209	985
Golden Eagle and Bald Eagle	UT-S-278 CSU-Bald Eagle Winter Roost		
Golden Eagle and Bald Eagle	UT-S-261 NSO/CSU/TL-Raptor Buffer UT-LN-49 Utah Sensitive Species	All	40,240

Species	Lease Notice or Stipulations	Parcels	Estimated Acres of Habitat Impacted
Ferruginous Hawk	UT-S-261 NSO/CSU/TL-Raptor Buffer UT-LN-49 Utah Sensitive Species	All	40,240
Short-eared owl	UT-S-261 NSO/CSU/TL-Raptor Buffer UT-LN-49 Utah Sensitive Species	All	40,240
Yellow-billed Cuckoo	UT-LN-113 CSU Yellow Billed Cuckoo	126, 132, 134, 135, 137, 163, 174, 176, 177, 214, and 216	536
Gray Vireo, Grasshopper Sparrow, Brewer's Sparrow, Bobolink	UT-LN-45 Migratory Birds UT-LN-49 Utah Sensitive Species	All	40,240

Application of these stipulations and notices to each of the parcels on federal surface would be adequate for the leasing stage to disclose potential future restrictions and to facilitate the reduction of potential impacts upon receipt of a site specific APD.

4.2. Alternative B – No Action

4.2.1. Air Quality

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.2. Designated Area: Areas of Critical Environmental Concern

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed

4.2.3. Lands with Wilderness Characteristics (LWC)

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.4. Recreation

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.5. Visual Resources

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.6. Wildlife: Migratory Birds

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed

4.2.7. Wildlife: Non-USFWS Designated

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.2.8. Wildlife: Threated, Endangered, Proposed or Candidate

The No Action alternative would not result in potential impacts because the parcels would not be leased or developed.

4.3. Cumulative Impacts Analysis

A cumulative impact is defined in CEQ regulations (40 CFR §1508.7) as "the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." Cumulative impacts can result from individually minor but collectively major actions taking place over a period of time. The cumulative impact area varies by resource.

Past, present, and reasonably foreseeable impacts may occur from a variety of activities. Dispersed recreation activities, such as sightseeing, biking, camping, and hunting, have occurred and are likely to continue to occur within the nominated parcels; these activities likely result in negligible impacts to resources because of their dispersed nature. Other land use activities, such as livestock grazing, vegetation projects, oil and gas development, and wildland fire, have also occurred within the nominated parcels and are likely to occur in the future. These types of activities are likely to have a greater impact on resources in the project area because of their more concentrated nature.

4.3.1. Air Quality

The CIAA for air quality is the Uinta Basin. Cumulative air quality impacts are defined as the combination of emissions resulting from the Proposed Action, existing nearby permitted sources, and Reasonably Foreseeable Development (RFD) within the region. Cumulative impacts are incorporated by reference to the Greater Natural Buttes air quality study and the Gasco air quality study. The increase in emissions associated with the Proposed Action would be localized, in some cases temporary (well development phase), and on a much smaller scale in comparison with regional emissions. For regional ozone issues, when the emissions inventory for the production phase of the Proposed Action is compared to the regional emission inventory compiled during the WRAP Phase III study for the Uinta Basin 2006 Baseline Emissions, (WRAP, 2009), it can be seen from **Table 4.12** that the VOC and NO_x emissions from the Proposed Action comprise a small percentage of the WRAP baseline emissions.

Table 4.12. Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison

Species	Proposed Action Production Emissions(ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory [a](ton/yr)	Percentage ofProposed Action toWRAP Phase III
NO_x	16.4	16,547	0.099
VOC	9.0	127,495	0.007

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data

The WRAP Phase III baseline inventory for the Uinta Basin for VOC emissions in 2006 was 71,546 tons/yr. For 2012, the NOx and VOC emissions are projected at 16,547 and 127,495 ton/yr, respectively. Potential VOC emissions from the Proposed Action represent 0.007% of the total 2012 VOC estimated emissions for the region, and potential NO^x emissions from the Proposed Action represent 0.099% of the total 2012 VOC estimated emissions for the region.

Based on the magnitude of the projected increase in VOC emissions for the Uinta Basin from 2006 to 2012, and the inconsequential contribution that would be emitted from the Proposed Action, an accurate analysis of potential ozone impacts from the Proposed Action is not feasible. Any cumulative ozone impacts from the Proposed Action would be indistinguishable from, and dwarfed by, the margin of uncertainty associated with the regional cumulative VOC and NO^x emission inventory. Thus the potential cumulative ozone impact from the Proposed Action cannot be modeled with any accuracy due to the level of the emissions from the Proposed Action, the size of the project, and the lack of model sensitivity. When compared to regional emissions inventories, the amounts of ozone precursors emitted from the Proposed Action are not expected to have a measurable contribution or effect on regional ozone formation. The No Action alternative would not result in an accumulation of impacts.

Green House Gases

The assessment of greenhouse gas (GHG) emissions and climate change is still in its earliest stages of formulation. At present, under current scientific data and models, it is not technically feasible to know with any certainty the net impacts to climate due to global emissions, let alone regional or local emissions. The inconsistency in results of scientific models used to predict climate change at the global scale, combined with the lack of scientific models designed to predict climate change on regional or local levels, prohibits the ability to quantify potential future impacts of decisions made at the local level, particularly for small scale projects such as the Proposed Action.

Drilling and development activities from the Proposed Action are anticipated to release a negligible amount of emissions, including GHGs, into the local airshed. The No Action Alternative would not result in an accumulation of impacts.

4.3.2. Designated Area: Areas of Critical Environmental Concern

4.3.2.1. Lower Green River Corridor ACEC

The CIAA for the Lower Green River Corridor ACEC (8,470 Acres) is the boundary of that area. The rationale for this boundary is that special management considerations are placed on the ACEC to protect the unique relevant and important (R&I) values associated with that area. The R&I values of the Lower Green River Corridor ACEC are riparian habitat and scenery. The cumulative effects and the area of impact would be the same as outlined in section 4.16.1 and

4.23.15.1 of the Vernal Field Office RMP (2008). The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, oil wells, pump jacks, pipeline, road rights of ways, etc...). The proposed action would contribute to these cumulative impacts by making one additional parcels available for lease and mineral development within the ACEC. For specific analysis of the R&I values contained within the ACEC please refer to the applicable sections of this document. The No Action alternative would not contribute any cumulative impacts.

4.3.2.2. Nine Mile Canyon ACEC

The CIAA for the Nine Mile Canyon ACEC (44,168 Acres) is the boundary of that area. The rationale for this boundary is that special management considerations are placed on the ACEC to protect the relevant and important (R&I) values. The R&I values of the Nine Mile Canyon ACEC are the cultural resources, high quality scenery, and special status species. The cumulative effects and the area of impact would be the same as outlined in section 4.16.1 and 4.23.15.1 of the Vernal Field Office RMP (2008). The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, oil wells, pump jacks, pipeline, road rights of ways, etc...). The proposed action would contribute to these cumulative impacts by making six additional parcels available for lease and mineral development within the ACEC. For specific analysis of the R&I values contained within the ACEC please refer to the applicable sections of this document. The No Action alternative would not contribute any cumulative impacts.

4.3.3. Designated Area: Wild and Scenic Rivers

4.3.3.1. The Lower Green River Suitable Wild and Scenic River (WSR) Segment

The CIAA for the Lower Green River suitable WSR segment (30 Miles) is the boundary of the river segment corridor. The rationale for this boundary is that this river segment is covered by RMP decision (WSR-7) to manage it as a suitable scenic segment to protect its outstandingly remarkable values. The outstandingly remarkable values for this river segment of the Green River are recreating and fishing values. The cumulative effects and the area of impact would be the same as outlined in section 4.16.1 and 4.23.15.1 of the Vernal Field Office RMP (2008). The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights (sights, sounds, and odors). The proposed action would contribute to these cumulative impacts by making three additional parcels available for lease and mineral development within the WSR segment. For specific analysis of the outstandingly remarkable values outlined for this river segment please refer to the applicable sections of this document (Recreation and Wildlife). The No Action alternative would not contribute any cumulative impacts.

4.3.4. Lands with Wilderness Characteristics (LWC)

The CIAA for Non WSA Lands with Wilderness Characteristics is the inventory unit boundary. The rationale for this boundary is that the inventory unit is the only non-WSA land found to contain wilderness characteristics that may be potentially affected by the proposed management activities. The cumulative effects and the area of impact would be the same as outlined in section

4.10.2 and 4.23.8 of the Vernal Field Office RMP (2008). The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights (leases) and/or realty actions (for example, pipeline or road rights of way). The proposed action would result in the loss wilderness characteristics within the inventory units affected; however, this level of development was analyzed and accepted by the decision in the VFO RMP. The No Action alternative would not contribute any cumulative impacts.

4.3.4.1. Archy Bench A Wilderness Character Inventory Unit (6,737 Acres)

Leasing the one parcel described in the proposed action (127 acres) combined with all other active leases within this LWC unit (6,406 acres) result in total leased area of 6,533 acres. Cumulatively, 97% of this inventory unit is leased for oil and gas development. If development occurs, it can be expected that wilderness character would be lost within 97% of the unit.

4.3.4.2. Badlands Cliff Inventory Unit (7442 Acres)

Leasing the three parcels described in the proposed action (1,086 acres) combined with all other active leases within this LWC unit (5,184 acres) result in total leased area of 6,270 acres. Cumulatively, 84% of this inventory unit is leased for oil and gas development. If development occurs, it can be expected that wilderness character would be lost within 84% of the unit.

4.3.4.3. Desolation Canyon Wilderness Character Inventory Unit (63,118 Acres)

Leasing the six parcels described in the proposed action (7,798 acres) combined with all other active leases within this LWC unit (44,211 acres) result in total leased area of 52,009 acres. Cumulatively, 82% of this inventory unit is leased for oil and gas development. If development occurs, it can be expected that wilderness character would be lost within 82% of the unit.

4.3.4.4. Lower Bitter Creek Inventory Unit (11,417 Acres)

Leasing the one parcel described in the proposed action (351 acres) combined with all other active leases within this LWC unit (7694 acres) result in total leased area of 8,045 acres. Cumulatively, 71% of this inventory unit is leased for oil and gas development. If development occurs, it can be expected that wilderness character would be lost within 71% of the unit.

4.3.4.5. White River Inventory Unit (21,210 Acres)

Leasing the three parcels described in the proposed action (1,017 acres) combined with all other active leases within this LWC unit (12,102 acres) result in total leased area of 13,119 acres. Cumulatively, 62% of this inventory unit is leased for oil and gas development. If development occurs, it can be expected that wilderness character would be lost within 62% of the unit. None of these impacts occur within the White River Natural Area.

4.3.5. Livestock Grazing & Rangeland Health Standards

The CIAA for the lease sale is the boundary of the Vernal Field Office (VFO). Ground disturbing activities associated with oil and gas development would include well pad construction, road

upgrades and construction, compressor station and pipeline construction. This development results in a loss of AUMs and provides conditions for invasive plant species establishment and increase.

Natural resources affected within these allotments would include direct surface disturbing impacts to soil and vegetation from ground disturbing activities. Permitted livestock use on some of these allotments has already been reduced due to oil and gas development. Future reductions would be expected as a direct result of fragmentation and loss of forage. Surface impacts also directly (*alter water flow*) and indirectly (*noise and traffic offset animals loafing and watering at ponds*) affect the water improvements specifically managed for livestock. The analysis for any changes in AUM allocation and general grazing operations throughout these allotments will occur in separate NEPA documents. The proposed action would contribute to these cumulative effects by making 40 parcels avaliable for leased mineral development within active grazing allotments.

The No Action alternative will not result in an accumulation of impacts.

4.3.6. Recreation

The CIAA for Recreation will be the Special Recreation Management Area (SRMA) affected and/or the recreational opportunity affected within the Extensive Recreation Management Area (ERMA). The rationale for this boundary is the interconnected access of recreational resources (trailheads, campgrounds, etc.) within each SRMA. Cumulative impacts are incorporated by reference to 4.12.2. and 4.23.10 in the RMP. The past, present, and foreseeable future actions include development of new and existing mineral rights (including pump jacks, roads, pipelines, well pad construction, etc...). The proposed action would contribute to these cumulative impacts by making several additional parcels available for lease and mineral development. Cumulatively, this would reduce the availability and/or quality of outdoor recreation opportunities (both dispersed and developed) on public lands within the VFO planning area.

4.3.6.1. Nine Mile - Special Recreation Management Area (SRMA)

Currently 25,764 acres are leased for oil and gas development within the Nine Mile Canyon SRMA (44,168 acres). The proposed action would lease an additional five parcels 6,398 acres for a total of 32,162 Acres or 73% of the SRMA.

4.3.6.2. Second Nature assigned Campsites (considered part of the Vernal ERMA)

Youth enrolled in Second Nature’s wilderness therapy program would experience a loss of primitive recreation opportunities due to the development of both the existing lease parcels and the six proposed in this dosumentproposed in this document.

4.3.6.3. White River Corridor (considered part of the Vernal ERMA)

Visitors to the White River would experience a loss of primitive recreation opportunities due to the development of both the existing lease parcels and the one proposed in this document.

4.3.7. Visual Resources

The CIAA considered for visual resources is the applicable inventory units of the Vernal Field Visual Resource Inventory (November 2011). The rationale for this boundary is that the visual resource inventory serves as the baseline information for assessing potential effects to visual resources within the proposed projects. Cumulative impacts are incorporated by reference to 4.12.2. and 4.23.10 of the Vernal Field Office RMP (2008). The past, current and future activities in the inventory unit would cumulatively increase the cultural modification done to the landscape. This is viewed as negative impact when assessing the scenic quality of an area. The proposed action would contribute to these cumulative impacts by making several additional parcels available for lease and mineral development. Visual contrast analysis will be conducted to determine if development is in compliance with VRM standards when the project proponents begin the work of developing the minerals within the proposed lease parcels. When a plan of development is created, site specific VRM analysis will be conducted. The No Action alternative would not contribute any cumulative impacts.

4.3.8. Wildlife: Migratory Birds

The CIAA for Migratory Birds will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.21.2 and 4.23.18 in the Vernal RMP. Cumulative impacts include loss of migratory bird habitat, habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) and the continuation of agricultural activities. The proposed action would contribute to these cumulative impacts by making several parcels available for lease sale and mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

4.3.9. Wildlife: Non-USFWS Designated

The CIAA for Fish and Wildlife Excluding U.S. Fish and Wildlife Service Designated Species will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.21.2 and 4.23.18 in the Vernal RMP. Cumulative impacts to general wildlife and raptors include reduction in Animal Unit Months (AUMs) for wildlife and loss of wildlife and fisheries habitat, habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) or the continuation of agricultural activities. The proposed action would contribute to these cumulative impacts by making several parcels available for lease and mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

4.3.10. Wildlife: Threatened, Endangered, Proposed or Candidate

The CIAA for Threatened, Endangered, Candidate, or Sensitive Animal Species will be the Vernal Planning Area. Cumulative impacts are incorporated by reference to 4.17.2, 4.21.2, and 4.23.14 in the Vernal RMP. Cumulative impacts to threatened, endangered, candidate, or sensitive animal species include reduction in AUMs for wildlife and loss of wildlife and fisheries habitat,

habitat fragmentation, and disruption or alteration of seasonal migration routes. The past, present, and foreseeable future actions with the potential to contribute to surface disturbance include development of new and existing mineral rights or realty actions (for example, pipeline or road rights of way) or the continuation of agricultural activities. The proposed action would contribute to these cumulative impacts by making several parcels available for lease sale and mineral development, with the potential for future surface disturbance should the leases be developed. The No Action alternative would not contribute any cumulative impacts.

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Chapter 5. Tribes, Individuals, Organizations, or Agencies Consulted:

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Table 5.1. List of Persons, Agencies and Organizations Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
U.S. National Park Service (NPS)	Consult with the NPS regarding potential impacts to NPS Units, including National Historic Trails.	On February 14, 2014, a memorandum providing notice of the lease sale, parcel locations and an invitation to attend parcel site-visits was transmitted to NPS. On February 27, 2014, GIS data depicting the proposed lease parcels was transmitted to NPS by electronic mail. Coordination is ongoing.
U.S. Fish & Wildlife Service (USFWS)	Section 7 ESA	On February 14, 2014, a memorandum providing notice of the lease sale, parcel locations and an invitation to attend parcel site-visits was transmitted to USFWS. Coordination is ongoing.
Utah State Historic Preservation Office (SHPO)	Section 106 NHPA	Consultation with SHPO was sent on May 28 2014. SHPO concurred with the findings of the BLM VFO June 2, 2014
Ute Mountain Ute Tribe Ute Indian Tribe Goshute Indian Tribe Zia Pueblo Tribe White Mesa Ute Tribe Navajo Nation Laguna Pueblo Tribe Northwest Band of Shoshone Tribe Southern Ute Tribe Eastern Shoshone Tribe Ute Indian Tribe Eastern Shoshone Tribe Santa Clara Pueblo Tribe Ute Mountain Ute Tribe Hopi Tribe (Collectively the Tribes)	American Indian Religious Freedom Act (1978) NHPA	Letters containing notification of this lease sale, location maps, and legal descriptions of the proposed parcels were sent to the Tribes on May 8, 2014. The letters detailed the leasing proposal and requested comments and concerns. No responses have been received.
Utah Division of Wildlife Resources (UDWR)	Interested Party Coordination	Coordination has been conducted via assistance with Identifying wildlife habitat including verification of the Occupied Sage Grouse habitat. Findings concerning wildlife issues regarding the parcels going forward were similar to the BLM's findings.
U.S. Forest Service	Consult as USFS as a leasing program partner.	On February 14, 2014, a memorandum providing notice of the lease sale, parcel locations and an invitation to attend parcel site-visits was transmitted to the U.S. Forest Service. Coordination is ongoing.

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
School and Institutional Trust Lands Administration (SITLA)	Coordinated with as leasing program partner.	On February 14, 2014, a letter providing notice of the lease sale, parcel locations and an invitation to attend parcel site-visits was transmitted to SITLA. Coordination is ongoing.
Public Lands Policy Coordination Office (PLPCO)	Coordinated with as leasing program partner.	On February 14, 2014, a letter providing notice of the lease sale, parcel locations and an invitation to attend parcel site-visits was transmitted to PLPCO. Coordination is ongoing.
Private Landowners	Coordination as outlined by WO IM 2010-117 and NEPA.	On May 20, 2014, a letter providing notice of the lease sale, parcel location and an invitation to attend parcel site-visits was mailed to private landowners Coordination is ongoing.

Chapter 6. List of Preparers

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Table 6.1. List of Preparers

Name	Office	Title	Responsible for the Following Section(s) of this Document
Melissa Wardle	VFO	NRS	Team Lead
Stephanie Howard	VFO	NEPA Coordinator	Air Quality
Dan Gilfillan	VFO	Recreation Specialist	BLM Natural Areas, ACECs, W&S Rivers, WSAs, Lands with Wilderness Characteristics, Recreation and VRM
Dan Emmett	VFO	Wildlife Biologist	Fish and Wildlife, Migratory Birds, T&E or Candidate Animal Species
Alec Bryan	VFO	Rangeland Management Specialist	Livestock Grazing & Rangeland Health Standards

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Appendix A. Preliminary Oil and Gas Lease Sale List

Table A.1. Preliminary Oil and Gas Lease Sale List

Legal Description of Available Parcel	Lease Stipulations and Notices
UT-1114-050 T. 10 S., R. 14 E., Salt Lake. Sec. 24: Lots 1-3; Sec. 35: All. 660.97 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO-Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU-Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL-Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU-Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-051 T. 11 S., R. 14 E., Salt Lake Sec. 1: All; Sec. 11: S2; Sec. 12: SW; Sec. 14: NE4. 1,279.08 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-53: NSO-Developed Recreation Sites UT-S-96: NSO- Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-115: Light and Sound

UT-1114-107 T. 9 S., R. 16 E., Salt Lake Secs. 33 and 34: All. 1,280.00 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO-NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-109 T. 10 S., R. 16 E., Salt Lake Secs. 3, 4, and 9: All. Sec 10: NW4, NWNE, NENE, SWNE, NWSW, SWSW. 2,275.00Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-53 UT-S-96: NSO-NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-115: Light and Sound
UT-1114-110 T. 10 S., R. 16 E., Salt Lake Secs. 7, 8, 17 and 18: All. 2,547.96 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-53: NSO-Developed Recreation Sites UT-S-96: NSO- Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-115: Light and Sound

UT-1114-112 T. 10 S., R. 16 E., Salt Lake Secs. 20, 21 and 22: All. 1,920.00 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-53: NSO-Developed Recreation Sites UT-S-96: NSO– Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-115: Light and Sound
UT-1114-113 T. 10 S., R. 16 E., Salt Lake Secs. 25, and 26: All Sec. 35: W2, W2E2, NENE, and NESE. 1,840.00 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-53: NSO -Developed Recreation Sites UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-115: Light and Sound
UT-1114-114 T. 10 S., R. 16 E., Salt Lake Sec. 27: S2; Sec. 28: S2; Secs. 33 and 34: All. 1,920.00 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-53: NSO-Developed Recreation Sites UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species

	UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-115: Light and Sound
UT-1114-116 T. 11 S., R. 16 E., Salt Lake Secs. 3, 4 and 10: All. 1,910.20 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-23: NSO/CSU/TL-Nine Mile Canyon ACEC UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-118 T. 11 S., R. 16 E., Salt Lake Secs. 25 and 26: All. 1,280.00 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-23: NSO/CSU/TL-Nine Mile Canyon ACEC UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-106: Special Recreation Management Area
UT-1114-119 T. 9 S., R. 17 E., Salt Lake Sec. 31: Lot 1. 37.77 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-30: Mountain Plover Habitat UT-LN-45: Migratory Birds

	UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-121 T. 11 S., R. 17 E., Salt Lake Sec. 19: Lots 2-4, S2NE, SENW, E2SW, SE; Sec. 20: All; Sec. 21: SWNW, S2; Sec. 28: N2; Sec. 29: N2; Sec. 30: Lots 1, 2, NE, E2NW. 2,414.23 Acres Duchesne County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-23: NSO/CSU/TL-Nine Mile Canyon ACEC UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-VRM II UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-106: Special Recreation Management Area
UT-1114-122 T. 11 S., R. 17 E., Salt Lake Sec. 23: S2S2; Sec. 24: S2S2; Sec. 25: N2; Sec. 26: N2; Sec. 27: N2. 1,280.00 Acres Duchesne County, Utah Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-23: NSO/CSU/TL-Nine Mile Canyon ACEC UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species T&E-06: Mexican Spotted Owl UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-106: Special Recreation Management Area
UT-1114-124 T. 9 S., R. 18 E., Salt Lake Sec. 33: S2NW. 80.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO– Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-30: Mountain Plover Habitat UT-LN-45: Migratory Birds

	UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-126 T. 11 S., R. 18 E., Salt Lake Sec. 6: Lots 2-4, SWNE, S2NW, SW, NWSE; Sec. 7: NW, NWSW; Sec. 17: N2NE, SENE, NW; Sec. 18: N2NE, SWNE, NW, N2SW, NWSE; 1,319.29 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-23: NSO/CSU/TL-Nine Mile Canyon ACEC UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-117: NSO River Corridors: Lower Green River UT-S-119: NSO — Lower Green River Corridor UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-231: CSU-Crucial Deer Winter Range UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species T&E-06: Mexican Spotted Owl UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-106: Special Recreation Management Area UT-LN-113: Yellow-Billed Cuckoo UT-LN-115: Light and Sound
UT-1114-132 T. 9 S., R. 19 E., Salt Lake Sec. 13: NWNE, SENW; Sec. 28: SESE, Lots 11-14. 213.72 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-117: NSO River Corridors: Lower Green River UT-S-119: NSO — Lower Green River Corridor UT-S-123: NSO-Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves. UT-LN-113: Yellow-Billed Cuckoo UT-LN-115: Light and Sound

UT-1114-133 T. 9 S., R. 19 E., Salt Lake Sec. 30: NWNW. 40.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-30: Mountain Plover Habitat UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-134 T. 10 S., R. 19 E., Salt Lake Sec. 19: Lots 5-9; Sec. 20: W2; Sec. 29: All; Sec. 30: Lots 9 and 10. 1,149.25 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-117: NSO River Corridors: Lower Green River UT-S-119: NSO — Lower Green River Corridor UT-S-123: NSO-Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves. UT-LN-113: CSU-Yellow-Billed Cuckoo UT-LN-115: Light and Sound
UT-1114-135 T. 10 S., R. 19 E., Salt Lake Sec. 18: Lots 1-4, W2SW. 227.83 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-22: NSO/CSU/TL Lower Green River ACEC UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO-Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado

	River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves. UT-LN-113: Yellow-Billed Cuckoo UT-LN-115: Light and Sound
UT-1114-137 T. 11 S., R. 19 E., Salt Lake Sec. 5: Lots 1-4, S2N2, SW; Sec. 6: All; Sec. 7: Lots 1-4, E2W2; Sec. 18: Lot 1. 1,444.71 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-113: Yellow-Billed Cuckoo
UT-1114-151 T. 7 S., R. 20 E., Salt Lake Sec. 10: SWSW. 40.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-153 T. 9 S., R. 20 E., Salt Lake Sec. 19: All; Sec. 30: Lot 1, N2NE, NENW. 947.02 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: Flood Plains UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado

	River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves.
UT-1114-155 T. 12 S., R. 20 E., Salt Lake Sec. 8: SW; Sec. 9: S2; Sec. 10: SW, W2SE; Sec. 15: N2NW, SWNW; Sec. 17: E2, N2NW, SENW. 1,280.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-231: CSU-Crucial Deer Winter Range UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-156 T. 12 S., R. 20 E., Salt Lake Sec. 33: All; Sec. 34: SWSW. 680.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-231: CSU-Crucial Deer Winter Range UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-157 T. 13 S., R. 20 E., Salt Lake Sec. 15: W2NW, SENW, SW; Sec. 17: ALL; Sec. 18: Lots 1, 2, E2, E2NW, NESW, N2SESW; Sec. 19: NENE; Sec. 20: NENE, N2NWNE, SENWNE, E2SWNE, N2SENE, SWSENE, N2NW. 1,697.66 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-231: CSU-Crucial Deer Winter Range UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado

	River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-163T. 6 S., R. 21 E., Salt Lake Sec. 25: Lots 5, 7, SWNE; Sec. 26: SWSW; Sec. 34: Lots 9-14, W2NW, SENW. 406.83 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-53: NSO-Developed Recreation Sites UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO — Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves. UT-LN-113: Yellow-Billed Cuckoo
UT-1114-169 T. 13 S., R. 21 E., Salt Lake Sec. 15: Lots 2, 3, E2NW, SW; Sec. 21: SENE, SESW, SE; Sec. 22: W2NE, W2, N2SE. 1,089.38 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: Flood Plains UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-231: CSU-Crucial Deer Winter Range UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species T&E-06: Mexican Spotted Owl UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves.

UT-1114-173 T. 15 S., R. 21 E., Salt Lake Sec. 29: N2NW; Sec. 30: Lots 1, 2, 4,N2NE, SWNE, E2W2, W2SE; Sec. 31: Lots 1-4, N2NE. 800.97 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO — Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species T&E-06: Mexican Spotted Owl UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves.
UT-1114-174 T. 6 S., R. 22 E., Salt Lake Sec. 8: N2NE, SENE. 120.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-113: Yellow-Billed Cuckoo
UT-1114-176 T. 6 S., R. 22 E., Salt Lake Sec. 17: NWNE, SENE. 80.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species

	UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-113: Yellow-Billed Cuckoo
UT-1114-177 T. 6 S., R. 22 E., Salt Lake Sec. 15: Lots 10, 11, SWSW. 88.58 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO — Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves UT-LN-113: Yellow-Billed Cuckoo
UT-1114-179 T. 7 S., R. 22 E., Salt Lake Sec. 11: NWNW. 40.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-195 T. 11 S., R. 23 E., Salt Lake Sec. 1: Lots 1-8; Sec. 5: Lots 1, 2, 7, 8, S2NE, SWSE; Sec. 15: SWNE, NESW, S2SW, W2SE. 706.29 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO-Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species

	UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves.
UT-1114-196 T. 11 S., R. 23 E., Salt Lake Sec. 31: Lots 1-4, SWNE, E2W2, SE. 486.92 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO-Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves.
UT-1114-209 T. 8 S., R. 24 E., Salt Lake Sec. 15: SWSW; Sec. 18: All; Sec. 22: N2. 988.64 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: Flood Plains UT-S-157: NSO/CSU/TL – Visual Resources UT-S-218: CSU-White Tailed Prairie Dog UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost UT-S-299: CSU/TL-Black Footed Ferret Primary Management Zone Area UT-2-325: TL-Raptor NEst Sites WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves.
UT-1114-214 T. 10 S., R. 24 E., Salt Lake Sec. 3: Lots 1, 2, S2NE, SE; Sec. 10 : All; Sec. 11: N2, SW, SWSE; Sec. 12: N2, N2SW, SE. 2,119.55 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-120: NSO-White River Corridor UT-S-123: NSO-Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-247: TL-Crucial Elk Calving and Deer Fawning Habitat UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation

	Notices T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves. UT-LN-113: Yellow-Billed Cuckoo UT-LN-115: Light and Sound
UT-1114-216 T. 10 S., R. 24 E., Salt Lake Sec. 19: E2; Sec. 20: NW; Sec. 29: NW. 640.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-159: CSU-Visual Resources-VRM II UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-113: Yellow-Billed Cuckoo
UT-1114-217 T. 11 S., R. 24 E., Salt Lake Sec. 25: Lot 7, W2SE, SESE; Sec. 34: N2; Sec. 35: All. 1,119.91 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01:Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-123: NSO-Riparian, Flood Plains, and Public Water Reserves UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-231: CSU-Crucial Deer Winter Range UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed UT-LN-53: Riparian Areas, Riparian Floodplains and Public Water Reserves.

UT-1114-218 T. 12 S., R. 24 E., Salt Lake Sec. 1: All. 640.08 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-231: CSU-Crucial Deer Winter Range UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-248 T. 10 S., R. 25 E., Salt Lake Sec. 33: W2NE; Sec. 34: All. 720.00 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-231: CSU-Crucial Deer Winter Range UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed
UT-1114-254 T. 12 S., R. 25 E., Salt Lake Sec. 5: Lots 1-4, S2N2, S2; Sec. 6: All. 1,276.60 Acres Uintah County, Utah Vernal Field Office	**Stipulations** UT-S-01: Air Quality UT-S-96: NSO – Fragile Soils/Slopes Greater Than 40% UT-S-100: CSU – Fragile Soils/Slopes (21%- 40%) UT-S-157: NSO/CSU/TL – Visual Resources UT-S-230: TL-Crucial Deer and Elk Winter Range UT-S-231: CSU-Crucial Deer Winter Range UT-S-261: TL-Raptor Buffers UT-S-278: CSU Bald Eagle Winter Roost WO IM 2002-174: Endangered Species Act Stipulation **Notices** T&E-03: Endangered Fish of the Upper Colorado River Drainage Basin T&E-05: Listed Plant Species UT-LN-45: Migratory Birds UT-LN-49: Utah Sensitive Species UT-LN-51: Special Status Plants: Not Federally Listed

Table A.2. Utah Stipulations

Stipulation Number	Utah Stipulations
UT-S-01	**AIR QUALITY** All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower shall not emit more than 2 grams of NOx per horsepower-hour. **Exception:** This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower. **Modification**: None **Waiver**: None AND All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NOx per horsepower-hour. **Exception**: None **Modification**: None **Waiver**: None
UT-S-22	**NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LMITATIONS-LOWER GREEN RIVER ACEC** No surface disturbing activities for oil and gas leasing within the Lower Green River Corridor within line of sight or up to one-half mile from the centerline of the river, whichever is less and within approximately 8,079 acres. Approximately 71 acres will be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. **Exception:** An exception will be granted if the disturbance complemented recreational goals and objectives. **Modification**: None **Waiver**: None
UT-S-23	**NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE/TIMING LIMITATIONS – NINE MILE CANYON ACEC** No surface occupancy for oil and gas leasing within approximately 17,162 acres, and approximately 209 acres will be open to leasing subject to moderate constraints such as timing limitations and controlled surface use. **Exception**: None **Modification**: None **Waiver**: None
UT-S-53	**NO SURFACE OCCUPANCY – DEVELOPED RECREATION SITES** No surface disturbing activities, shooting of firearms or grazing will occur within developed recreation sites. **Exception**: An exception will be granted if the disturbance were related to recreational infrastructure support. **Modification**: None **Waiver**: None

UT-S-96	**NO SURFACE OCCUPANCY – FRAGILE SOILS/SLOPES FOR SLOPES GREATER THAN 40%** No surface occupancy for slopes greater than 40 percent. **Exception:** If after an environment analysis the authorized officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives; surface occupancy in the NSO area may be authorized. Additionally a plan shall be submitted by the operator and approved by BLM prior to construction and maintenance and include: ● An erosion control strategy, ● GIS modeling, and ● Proper survey and design by a certified engineer. **Modification:** Modifications also may be granted if a more detailed analysis, i.e. Order I, soil survey conducted by a qualified soil scientist finds that surface disturbance activities could occur on slopes greater than 40% while adequately protecting the area from accelerated erosion. **Waiver**: None
UT-S-100	**CONTROLLED SURFACE USE – FRAGILE SOILS/SLOPES (21%-40%)** If surface-disturbing activities cannot be avoided on slopes from 21-40% a plan will be required. The plan will approved by BLM prior to construction and maintenance and include: ● An erosion control strategy, ● GIS modeling, ● Proper survey and design by a certified engineer. **Exception**: None **Modification**: None **Waiver**: None
UT-S-117	**NO SURFACE OCCUPANCY – RIVER CORRIDORS: LOWER GREEN RIVER** Between the Indian trust land boundary at Ouray and the Carbon County line, surface disturbing activities within the Lower Green River Corridor and Lower Green River Expansion will be subject to NSO within line of sight or up to one-half mile from the centerline of the river, whichever is less. **Exception**: Future facilities will be placed within the existing ROW corridor near the Four Mile Bottom area where an existing pipeline crosses the Green River **Modification**: None **Waiver**: None
UT-S-119	**NO SURFACE OCCUPANCY – LOWER GREEN RIVER CORRIDOR** No surface occupancy within a minimum of ¼ mile from the high water mark on both banks up to ½ mile from the Ouray boundary to Carbon County line. **Exception**: Future facilities will be placed within the existing ROW corridor near the Four Mile Bottom area where an existing pipeline crosses the Green River. **Modification**: None **Waiver**: None
UT-S-120	**NO SURFACE OCCUPANCY – WHITE RIVER CORRIDOR** No surface occupancy with the centerline line of site, up to ½ mile along both sides of the river from where the river enters Township 10 South, Range 24 East, to where the river leaves Section 18, Township 10 South, Range 23 East. **Exception**: Recognized utility corridors are excepted. **Modification**: None **Waiver**: None

UT-S-123	**NO SURFACE OCCUPANCY – RIPARIAN, FLOODPLAINS, AND PUBLIC WATER RESERVES** No new surface-disturbing activities are allowed within active flood plains, wetlands, public water reserves, or 100 meters of riparian areas. Keep construction of new stream crossings to a minimum. **Exception:** An exception could be authorized if: (a) there are no practical alternatives (b) impacts could be fully mitigated, or (c) the action is designed to enhance the riparian resources. **Modification**: None **Waiver**: None
UT-S-157	**NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE TIMING LIMITATION – VISUAL RESOURCES** Visual resource management activities will comply with BLM Handbook 8410-1. Within VRM Class I areas, very limited management activity will be allowed, with the objective of preserving the existing character of the landscape, allowing for natural ecological changes. The level of change to the landscape should be very low and shall not attract attention. Within VRM Class II areas, surface-disturbing activities will retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any change to the landscape shall repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape. Within VRM Class III areas, surface disturbing activities will partially retain the existing character of the landscape. The allowable level of change will be moderate, may attract attention, but should not dominate the view of the casual observer. Landscape changes should repeat the basic elements of form, line, color and texture found in the predominant natural features of the characteristic landscape. Within VRM Class IV areas, surface disturbing activities are allowed to dominate the view and the major focus of viewer attention. Major modifications to the existing character of the landscape are allowed. But every attempt should be made to minimize and mitigate the impacts. **Exception:** Exempted are recognized utility corridors. **Modification:** None **Waiver:** None
UT-S-159	**CONTROLLED SURFACE USE – VISUAL RESOURCES - VRM II** Within VRM II areas, surface-disturbing activities will retain the existing character of the landscape. The level of change to the landscape should be low. Management activities may be seen, but should not attract attention of the casual observer. Any change to the landscape must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. **Exception**: Exempted are recognized utility corridors. **Modification**: None **Waiver**: None
UT-S-218	**CONTROLLED SURFACE USE – WHITE-TAILED PRAIRIE DOG** No surface-disturbing activities within 660 feet of prairie dog colonies identified within prairie dog habitat. No permanent aboveground facilities are allowed within the 660 feet buffer. **Exception:** An exception may be granted by the authorized officer if the applicant submits a plan that indicates that impacts of the proposed action can be adequately mitigated or, if due to the size of the town, there is no reasonable location to develop a lease and avoid colonies the authorized officer will allow for loss of prairie dog colonies and/or habitat to satisfy terms and conditions of the lease. **Modification:** The authorized officer may modify the boundaries of the stipulation area if portions of the area does not include prairie dog habitat or *active* colonies are found outside current defined area, as determined by BLM. **Waiver:** May be granted if in the leasehold if it is determined that habitat no longer exists or has been destroyed.

UT-S-230	**TIMING LIMITATION – CRUCIAL DEER AND ELK WINTER RANGE** No surface disturbing activities in deer and elk crucial winter range from **December 1 - April 30.** **Exception**: This restriction would not apply if and/or elk are not present, or if it is determined through analysis and coordination with UDWR that impacts could be mitigated. Factors to be considered would include snow depth, temperature, snow crusting, location of disturbance, forage quantity and quality, animal condition, and expected duration of disturbance. **Modification**: The stipulation could be modified based on findings of collaborative monitoring and analysis. For example, the winter range configuration and time frames could be changed if current animal use patterns are determined to be inconsistent with the dates and boundaries established. **Waiver**: This stipulation could be waived if it is determined through collaborative monitoring and analysis that the area is not crucial winter range or that timing restrictions are unnecessary.
UT-S-231	**CONTROLLED SURFACE USE – CRUCIAL DEER WINTER RANGE** Within crucial deer winter range, no more than 10% of such habitat will be subject to surface disturbance and remain un-reclaimed at any given time. **Exception**: This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that impacts can be mitigated. **Modification**: None **Waiver**: None
UT-S-247	**TIMING LIMITATION – CRUCIAL ELK CALVING AND DEER FAWNING HABITAT** In order to protect crucial elk calving and deer fawning habitat exploration, drilling, and other development activity will not be allowed from **May 15 - June 30.** **Exception**: This restriction would not apply to maintenance and operation of existing facilities. This stipulation may be excepted if either the resource values change or the lessee/operator demonstrates to BLMs satisfaction that adverse impact can be mitigated. **Modification**: None **Waiver**: None
UT-S-261	**TIMING LIMITATION – RAPTOR BUFFERS** Raptor management will be guided by the use of "Best Management Practices for Raptors and Their Associated Habitats in Utah" (Utah BLM, 2006, Appendix A), utilizing seasonal and spatial buffers, as well as mitigation, to maintain and enhance raptor nesting and foraging habitat, while allowing other resource uses. **Exception**: None **Modification**: Criteria that would need to be met, prior to implementing modifications to the spatial and seasonal buffers in the "*Raptor BMPs",* would include the following: 1. Completion of a site-specific assessment by a wildlife biologist or other qualified individual. See example (Attachment 1 of the Raptor BMPs in Appendix A) 2. Written documentation by the BLM Field Office Wildlife Biologist, identifying the proposed modification and affirming that implementation of the proposed modification(s) would not affect nest success or the suitability of the site for future nesting. Modification of the *"*BMPs*"* would not be recommended if it is determined that adverse impacts to nesting raptors would occur or that the suitability of the site for future nesting would be compromised. 3. Development of a monitoring and mitigation strategy by a BLM biologist, or other raptor biologist. Impacts of authorized activities would be documented to determine if the modifications were implemented as described in the environmental documentation or Conditions of Approval, and were adequate to protect the nest site. Should adverse impacts be identified during monitoring of an activity, BLM would follow an appropriate course of action, which may include cessation or modification of activities that would avoid, minimize or mitigate the impact, or, with the approval of UDWR and the USFWS, BLM could allow the activity to continue while requiring monitoring to determine

	the full impact of the activity on the affected raptor nest. A monitoring report would be completed and forwarded to UDWR for incorporation into the Natural Heritage Program (NHP) raptor database. **Waiver**: None
UT-S-278	**CONTROLLED SURFACE USE – BALD EALGE WINTER ROOST** Protect and restore cottonwood bottoms for bald eagle winter habitat along the Green and White Rivers, at Pelican Lake, and at the Cliff Creek Bald Eagle roost site, as well as any new roost sites discovered in the future. **Exception**: None **Modification**: None **Waiver**: None
UT-S-299	**CONTROLLED SURFACE USE/TIMING LIMITATIONS –BLACK-FOOTED FERRET - PRIMARY MANAGEMENT ZONE AREA** BLM will manage the black-footed ferrets and the black-footed ferret primary management zone (PMZ) consistent with the Black-footed Ferret Reintroduction Plan Amendment (UT-080-1999-02) and those portions of the Cooperative Plan for the Reintroduction and Management of Black-footed Ferret in Coyote Basin, Uintah County, Utah that are consistent with this plan amendment. New power lines constructed through the PMZ will be raptor proof. Management activities within the PMZ will be conducted with the objective of maintaining at least 10,000 acres of prairie dog colonies. According to the US Fish and Wildlife Service (USFWS) and the Utah Division of Wildlife Resources (UDWR), a minimum of 8,000 acres is acceptable as long as the ferret habitat rating (the number of ferret families the habitat can support) does not fall below 50% of the 1989 levels. Whenever possible, such activities will avoid prairie dog habitat. Otherwise, activities will be designed to impact the smallest area possible and/or those areas with the lowest prairie dog densities. The creation of additional prairie dog habitat (e.g. burning vegetation and drilling new holes, etc.) will be required only if the disturbance or development reduces the prairie dog acreage below the 8,000 acre threshold. The period between breeding and emergence of young is a period of "sensitivity" for ferrets. This period extends from March 1 to July 15. The period between birth and emergence of young is a period of "critical" importance for successful ferret productivity. This period extends from May 1 to July 15. Activities involving the development or construction of temporary or permanent surface disturbances will be prohibited within 1/8 mile boundaries of known home ranges of female ferrets during the "critical" period from May 1 thru July15. The home ranges will be determined from data obtained from radio collard animals. Previously existing or permitted operations which may occur within these boundaries will continue normal operations; however, no new surface disturbances will be initiated at these sites during the "critical" period. If a ferret is discovered at a commercial facility (e.g. Gilsonite mine, well pad, power plant), it will then be decided by the USFWS and UDWR, if removal of the ferret was necessary and, if so, removal will be initiated within 48 hours. If the targeted animal(s) cannot be captured within 72 hours of the commencement of trapping activities, such activities will cease and be replaced by a monitoring program to ascertain the status of the animal(s). Further attempts to remove the subject animal(s) will be based on this monitoring If ferrets are discovered at the site of a proposed commercial operation, then mitigation in the form of: delay of activities, movement of ferret(s), offsite prairie dog habitat development, redesign of activities, or any combination of the above will be required. The course of events chosen will be determined cooperatively by the operator, UDWR, the USFWS, and land management agencies.

	Exception: Retrofitting of existing poles and towers to raptor proof standards will not be required. Maintenance or construction of previously existing or permitted operations can continue. Ephemeral surface disturbance (disturbance in prairie dog habitat for less than six months, after which it again becomes or can be made suitable for prairie dog use), such as prescribed fire or herbicide treatment, may be conducted within 1/8 mile of the boundary of the home range of a female from March 1 to May 1. In general, the disturbance should be completed before the critical period begins. The USFWS, UDWR, and the land management agencies will determine if this exemption applies. Normal travel and surveying activities will not be restricted. **Modification**: None **Waiver**: None
UT-S-325	**TIMING LIMITATION – RAPTOR NEST SITES** Restrict surface disturbing activities within ½ mile around special status raptor species nest sites during the following time periods: Mar 1–Aug 1: Ferruginous hawk Mar 1–Aug 15: N. Goshawk Restrict surface disturbing activities within ¼ mile around special status raptor species nest sites during the following time periods: Mar 1–Aug 1: Short-eared owl Mar 1–Aug 31: Burrowing owl **Exception**: An exception could be granted if surveys determine that nesting sites are not occupied. **Modification**: The Authorized Officer may modify the boundaries of the stipulation area if portions of the area do not include habitat or are outside the current defined area, as determined by the BLM. **Waiver**: A waiver may be granted if it is determined the habitat no longer exists or has been destroyed.

Table A.3. Utah's Lease Notices

Number	Utah's Lease Notices
UT-LN-30	**MOUNTAIN PLOVER HABITAT** The lessee/operator is given notice that lands in this lease have been identified as containing Mountain Plover Habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect the Mountain Plover and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.
UT-LN-45	**MIGRATORY BIRD** The lessee/operator is given notice that surveys for nesting migratory birds may be required during migratory bird breeding season whenever surface disturbances and/or occupancy is proposed in association with fluid mineral exploration and development within priority habitats. Surveys should focus on identified priority bird species in Utah. Field surveys will be conducted as determined by the authorized officer of the Bureau of Land Management. Based on the result of the field survey, the authorized officer will determine appropriate buffers and timing limitations.

UT-LN-49	**UTAH SENSITIVE SPECIES** The lessee/operator is given notice that no surface use or otherwise disruptive activity would be allowed that would result in direct disturbance to populations or individual special status plant and animal species, including those listed on the BLM sensitive species list and the Utah sensitive species list. The lessee/operator is also given notice that lands in this parcel have been identified as containing potential habitat for species on the Utah Sensitive Species List. Modifications to the Surface Use Plan of Operations may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, Migratory Bird Treaty Act and 43 CFR 3101.1-2.
UT-LN-51	**SPECIAL STATUS PLANTS: NOT FEDERALLY LISTED** The lessee/operator is given notice that lands in this lease have been identified as containing special status plants, not federally listed, and their habitats. Modifications to the Surface Use Plan of Operations may be required in order to protect the special status plants and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.
UT-LN-106	**SPECIAL RECREATION MANAGEMENT AREA** The lessee/operator is given notice that lands in this lease have been identified as being within a Special Recreation Management Area. Modifications to the Surface Use Plan of Operations may be required in order once an activity plan is prepared for the area to protect sensitive resources from surface disturbing activities in accordance with the Vernal RMP.
UT-LN-113	**YELLOW-BILLED CUCKOO** The lessee/operator is given notice that portions of this lease may be located within yellow-billed and no surface-disturbing activities will be conducted within 100 meters of Yellow-billed Cuckoo habitat (riparian areas) from **May 15th through July 20th**.
UT-LN-115	**LIGHT AND SOUND** In accordance with the Vernal RMP Decision MIN-5, the BLM will seek to minimize light and sound pollution within the project area using the best available technology such as installation of multi-cylinder pumps, hospital sound reducing mufflers, and placement of exhaust systems to direct noise away from noise sensitive areas (e.g., sensitive habitat, campgrounds, river corridors, and Dinosaur National Monument). Light pollution will be mitigated by using methods such as limiting height of light poles, timing of lighting operations (meaning limiting lighting to times of darkness associated with drilling and work over or maintenance operations), limiting wattage intensity, and constructing light shields. If a determination is made that natural barriers or view sheds will meet these mitigation objectives, the above requirements may not apply.
T&E-03	**ENDANGERED FISH OF THE UPPER COLORADO RIVER DRAINAGE BASIN** The Lessee/Operator is given notice that the lands in this parcel contain Critical Habitat for the Colorado River fish (bonytail, humpback chub, Colorado pike minnow, and razorback sucker) listed as endangered under the Endangered Species Act, or these parcels have watersheds that are tributary to designated habitat. Critical habitat was designated for the four endangered Colorado River fishes on March 21, 1994(59 FR 13374-13400). Designated critical habitat for all the endangered fishes includes those portions of the 100-year floodplain that contain primary constituent elements necessary for survival of the species. Avoidance or use restrictions may be placed on portions of the lease. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following:

	1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individual(s). 2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. 3. Water production will be managed to ensure maintenance or enhancement of riparian habitat. 4. Avoid loss or disturbance of riparian habitats. 5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. 6. Conduct watershed analysis for leases in designated critical habitat and overlapping major tributaries in order to determine toxicity risk from permanent facilities. 7. Implement Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423). 8. Drilling will not occur within 100 year floodplains of rivers or tributaries to rivers that contain listed fish species or critical habitat. 9. In areas adjacent to 100-year flood plains, particularly in systems prone to flash floods, analyze the risk for flash floods to impact facilities, and use closed loop drilling, and pipeline burial or suspension according to Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423, to minimize the potential for equipment damage and resulting leaks or spills. Water depletions from *any* portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect or adversely modify the critical habitat of the four resident endangered fish species, and must be evaluated with regard to the criteria described in the Upper Colorado River Endangered Fish Recovery Program. Formal consultation with USFWS is required for all depletions. All depletion amounts must be reported to BLM. Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the ESA
T&E-05	**LISTED PLANT SPECIES** The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for federally listed plant species under the Endangered Species Act. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease 1. Site inventories: **a**. Must be conducted to determine habitat suitability, **b**. Are required in known or potential habitat for all areas proposed for surface disturbance prior to initiation of project activities, at a time when the plant can be detected, and during appropriate flowering periods, **c.** Documentation should include, but not be limited to

	individual plant locations and suitable habitat distributions, and **d.** All surveys must be conducted by qualified individuals. 2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. 3. Project activities must be designed to avoid direct disturbance to populations and to individual plants: **a.** Designs will avoid concentrating water flows or sediments into plant occupied habitat. **b.** Construction will occur down slope of plants and populations where feasible; if well pads and roads must be sited upslope, buffers of 300 feet minimum between surface disturbances and plants and populations will be incorporated. **c.** Where populations occur within 300 ft. of well pads, establish a buffer or fence the individuals or groups of individuals during and post-construction. **d.** Areas for avoidance will be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc. **e.** For surface pipelines, use a 10 foot buffer from any plant locations: **f.** If on a slope, use stabilizing construction techniques to ensure the pipelines don't move towards the population. 4. For riparian/wetland-associated species, e.g. Ute ladies-tresses, avoid loss or disturbance of riparian habitats. 5. Ensure that water extraction or disposal practices do not result in change of hydrologic regime. 6. Limit disturbances to and within suitable habitat by staying on designated routes. 7. Limit new access routes created by the project. 8. Place signing to limit ATV travel in sensitive areas. 9. Implement dust abatement practices near occupied plant habitat. 10. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area. 11. Post construction monitoring for invasive species will be required. 12. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in plant habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers. 13. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the Endangered Species Act.
T&E-06	**MEXICAN SPOTTED OWL** The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Mexican spotted owl, a federally listed species. The Lessee/Operator is given notice that the lands in this lease contain Designated Critical Habitat for the Mexican spotted

owl, a federally listed species. Critical habitat was designated for the Mexican spotted owl on August 31, 2004 (69 FR 53181-53298). Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend whether the action is temporary or permanent, and whether it occurs within or outside the owl nesting season.

A temporary action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls through disturbances, i.e. creation of a permanent structure.

The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures, will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s).

2. Assess habitat suitability for both nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the conservation measures below if project activities occur within 0.5 mile of suitable owl habitat. Determine potential effects of actions to owls and their habitat.

3. Document type of activity, acreage and location of direct habitat impacts, type and extent of indirect impacts relative to location of suitable owl habitat.

4. Document if action is temporary or permanent.

5. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

6. Water production will be managed to ensure maintenance or enhancement of riparian habitat.

7. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in canyon habitat suitable for Mexican spotted owl nesting.

For all temporary actions that may impact owls or suitable habitat:

1. If the action occurs entirely outside of the owl breeding season (March 1 – August 31), and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.

2. If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity must be delayed until outside of the breeding season.

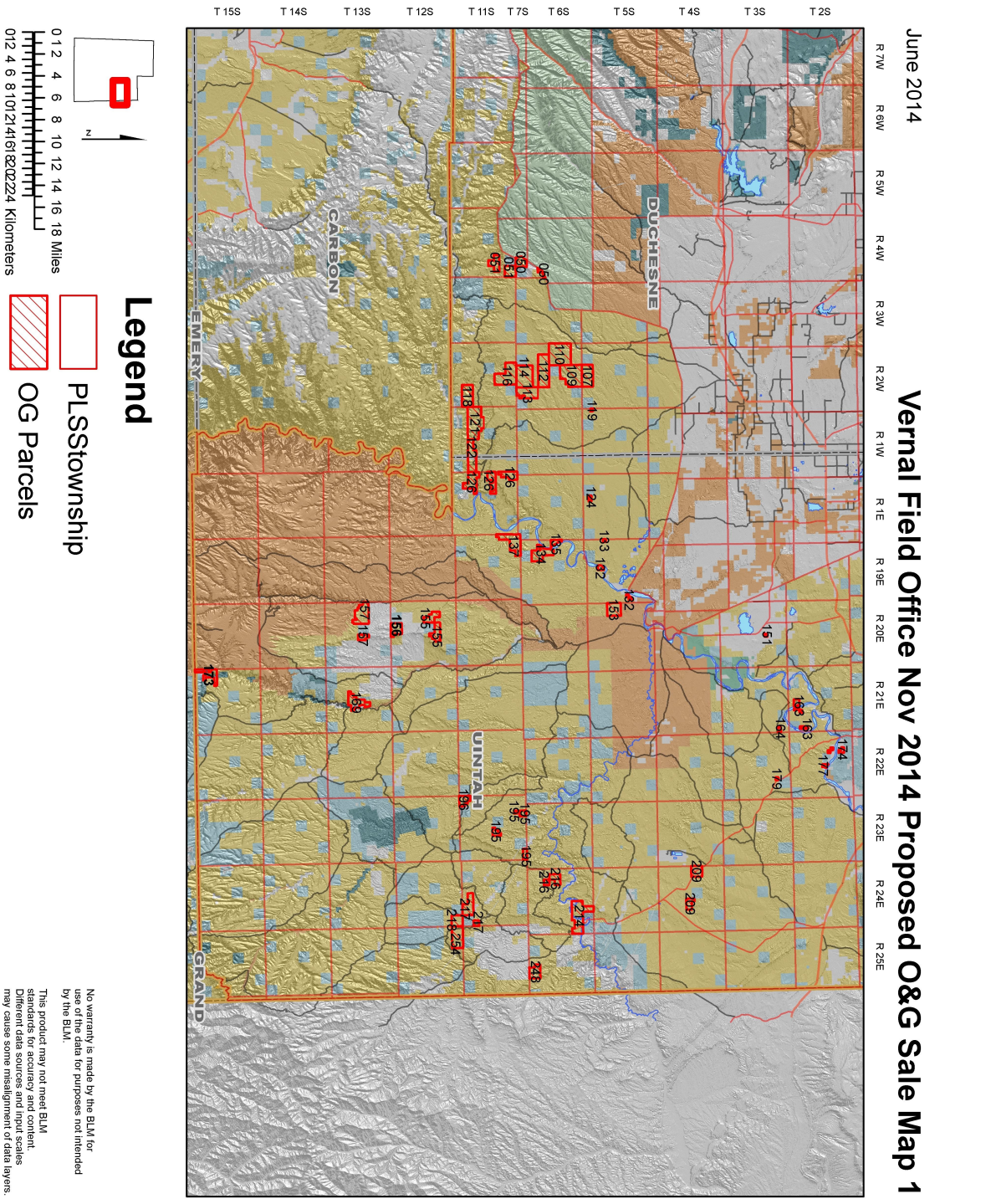
3. Rehabilitate access routes created by the project through such means as raking out scars, re-vegetation, gating access points, etc.

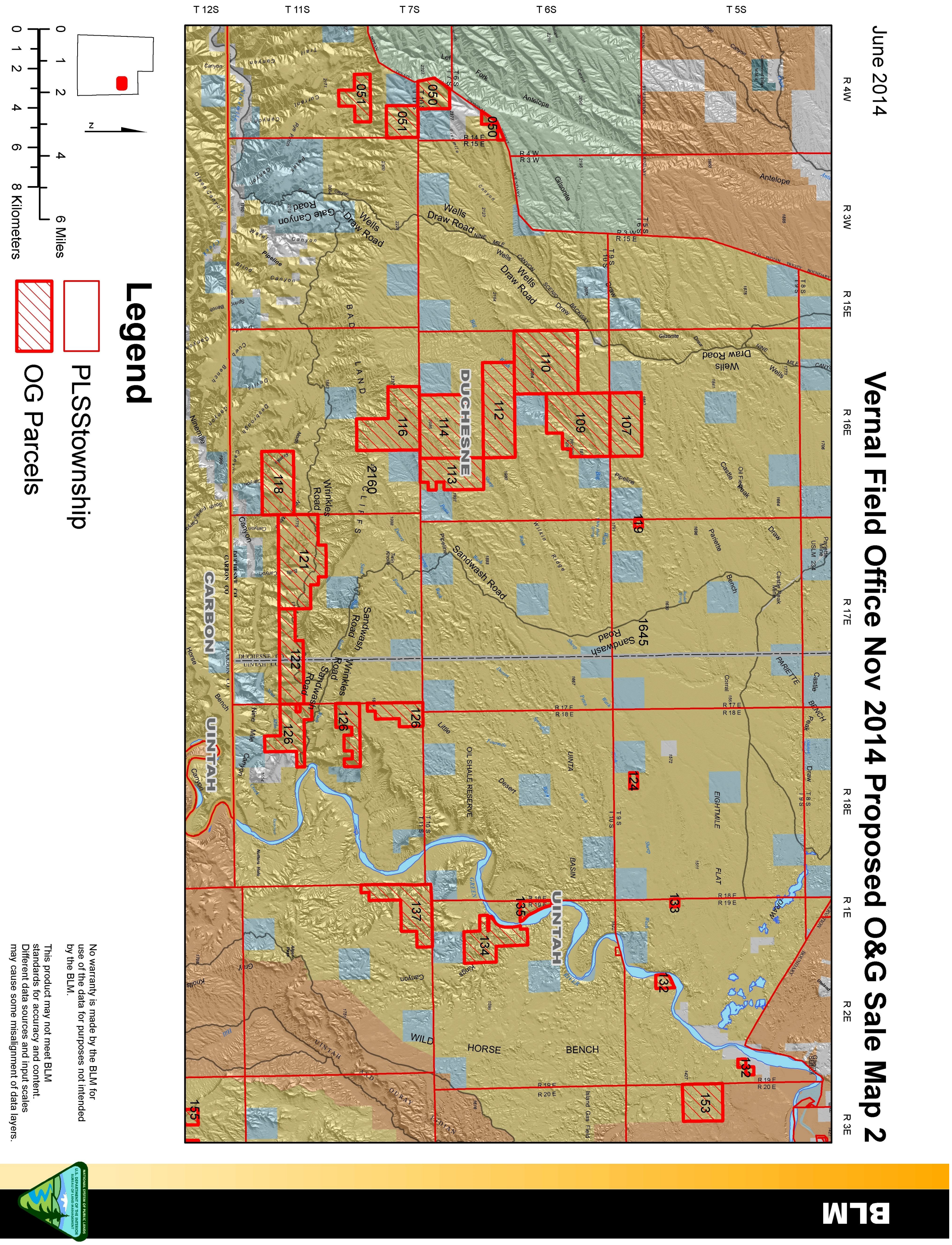
For all permanent actions that may impact owls or suitable habitat:

1. Survey two consecutive years for owls according to accepted protocol prior to commencing activities.

	2. If owls are found, no actions will occur within 0.5 mile of identified nest site. If nest site is unknown, no activity will occur within the designated Protected Activity Center (PAC). 3. Avoid drilling and permanent structures within 0.5 mi of suitable habitat unless surveyed and not occupied. 4. Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at 0.5 mile from suitable habitat, including canyon rims. Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.5 mile buffer for suitable habitat, including canyon rims. 5. Limit disturbances to and within suitable habitat by staying on approved routes. 6. Limit new access routes created by the project. Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the Endangered Species Act.

Appendix B. Maps




Vernal Field Office Nov 2014 Proposed O&G Sale Map 2
June 2014
Legend
PLSStownship
OG Parcels
0 1 2 4 6 Miles
0 1 2 4 6 8 Kilometers
No warranty is made by the BLM for use of the data for purposes not intended by the BLM.
This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers.
BLM
T 12S
T 11S
T 7S
T 6S
T 5S
R 4W
R 3W
R 15E
R 16E
R 17E
R 18E
R 1E
R 2E
R 3E
DUCHESNE
CARBON
UINTAH
Wells Draw Road
Sandwash Road
Winkles Road
Gate Canyon Road
HORSE
BENCH
050
051
107
109
110
112
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122
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126
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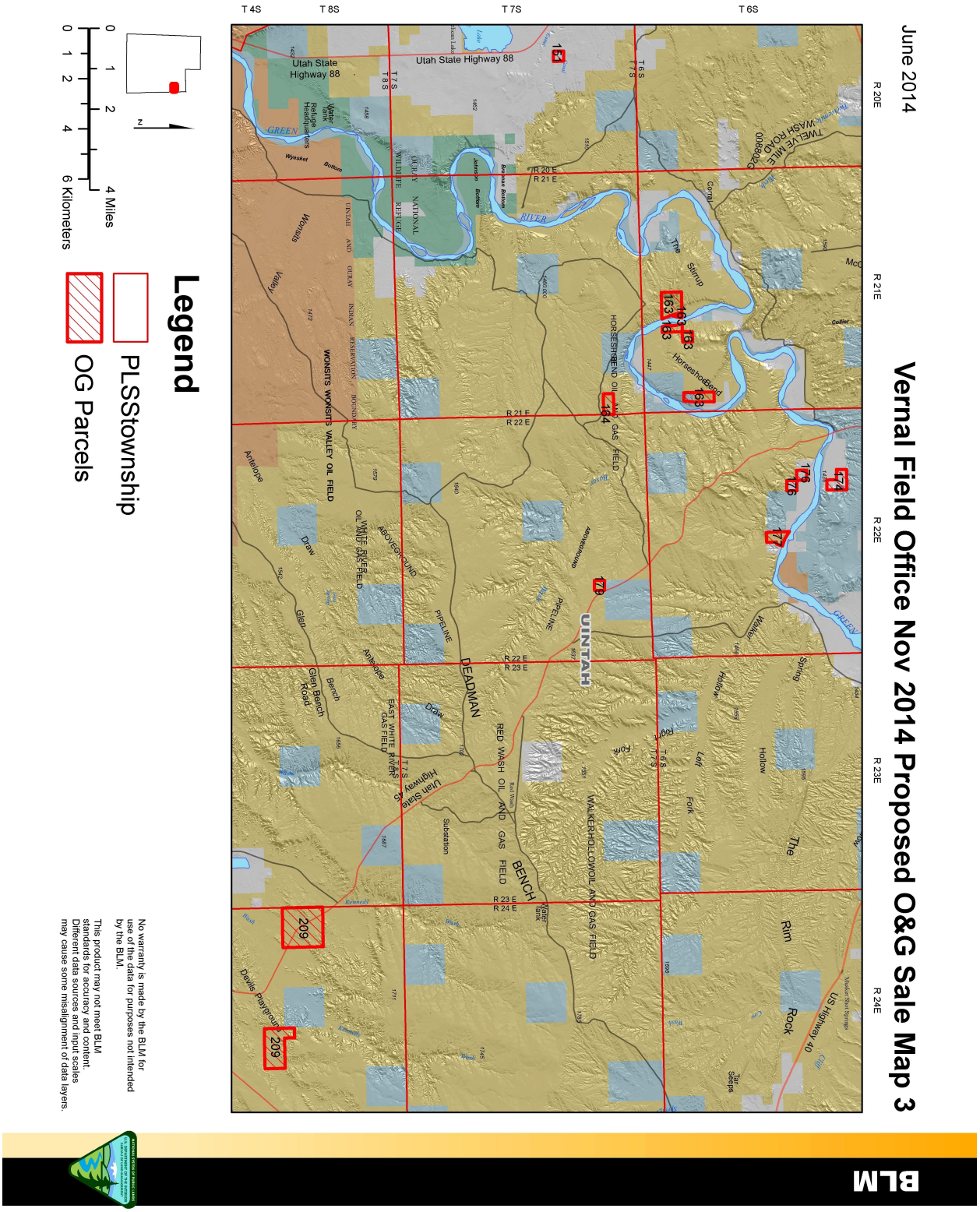
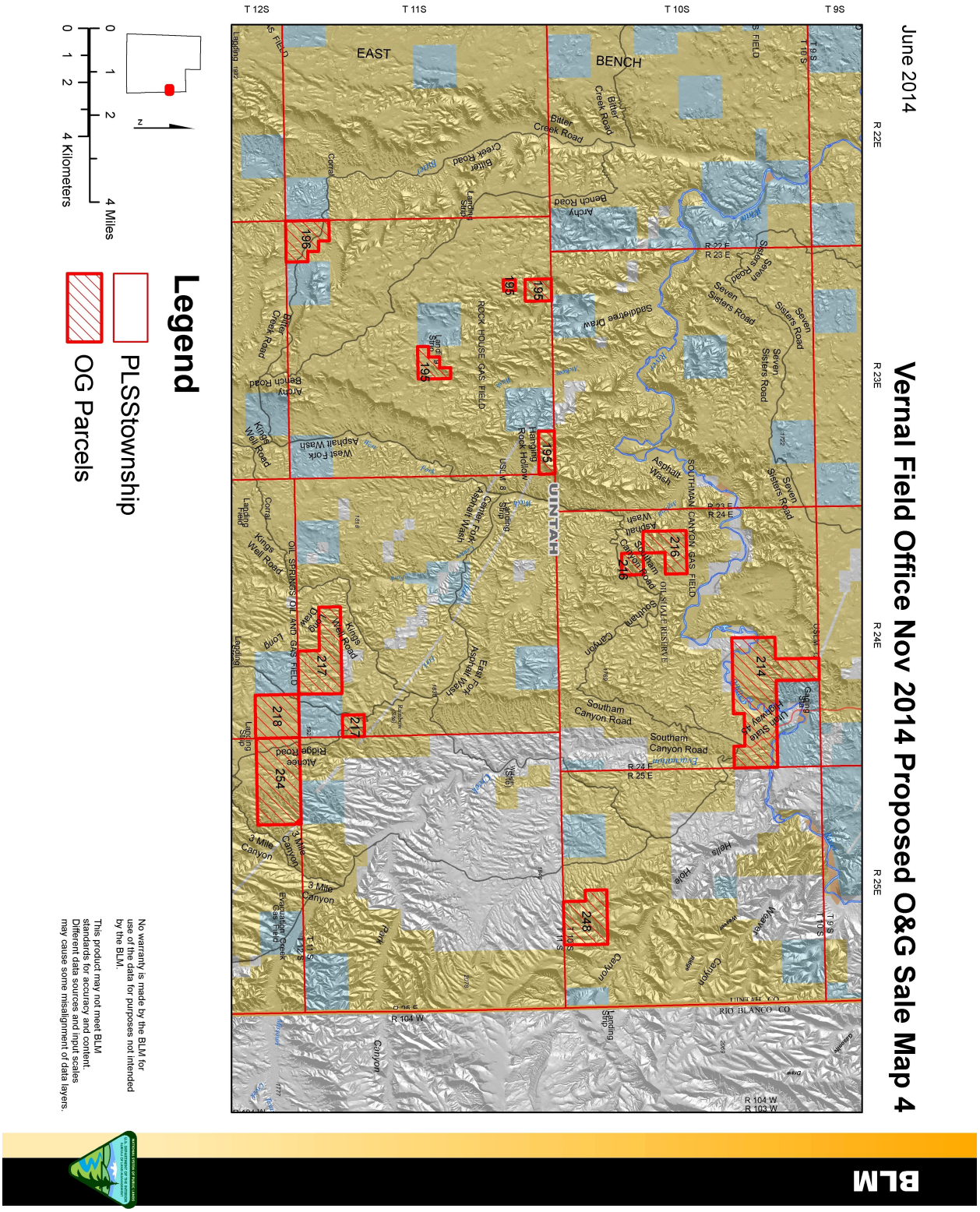
137
153
155



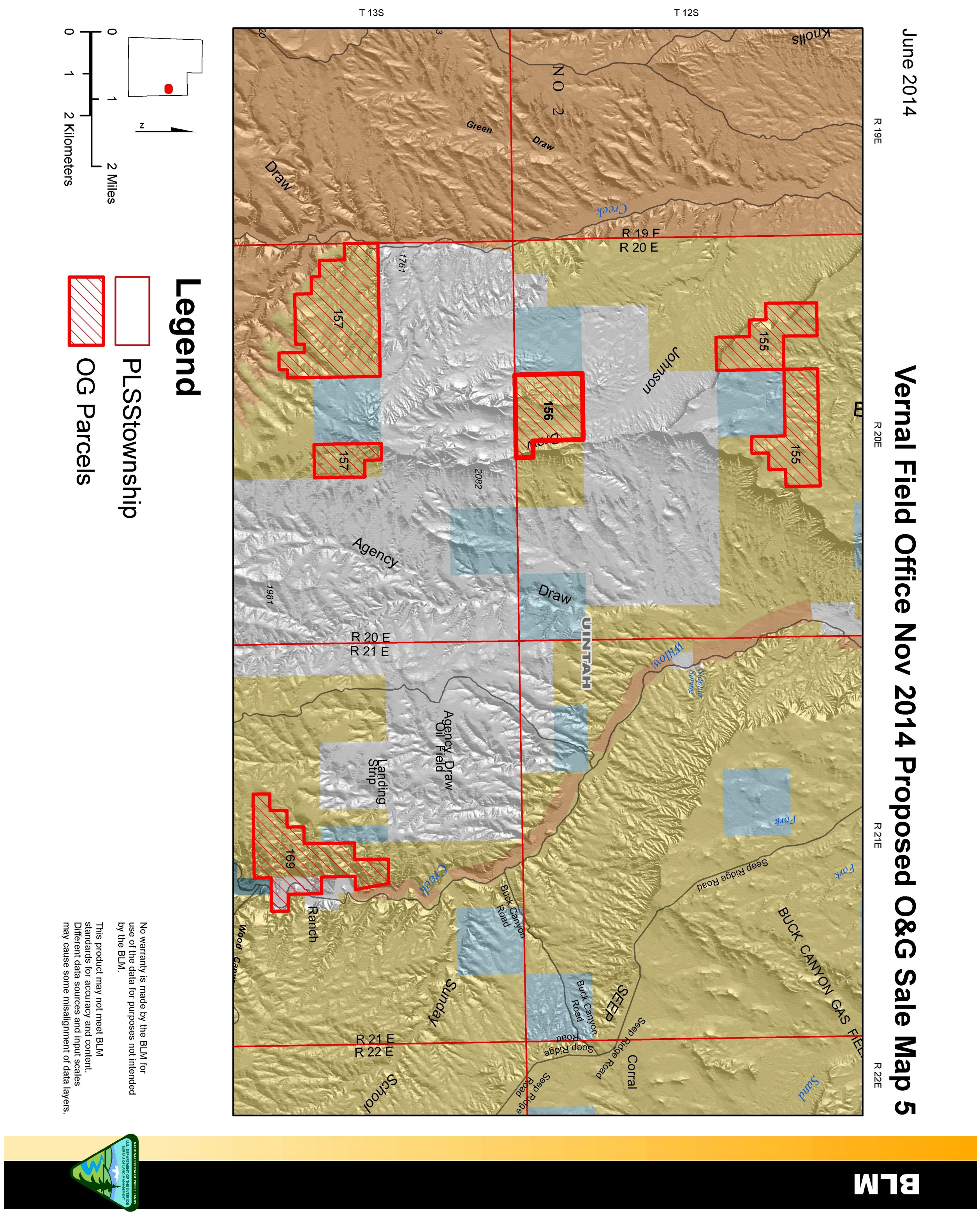
No warranty is made by the BLM for use of the data for purposes not intended by the BLM.

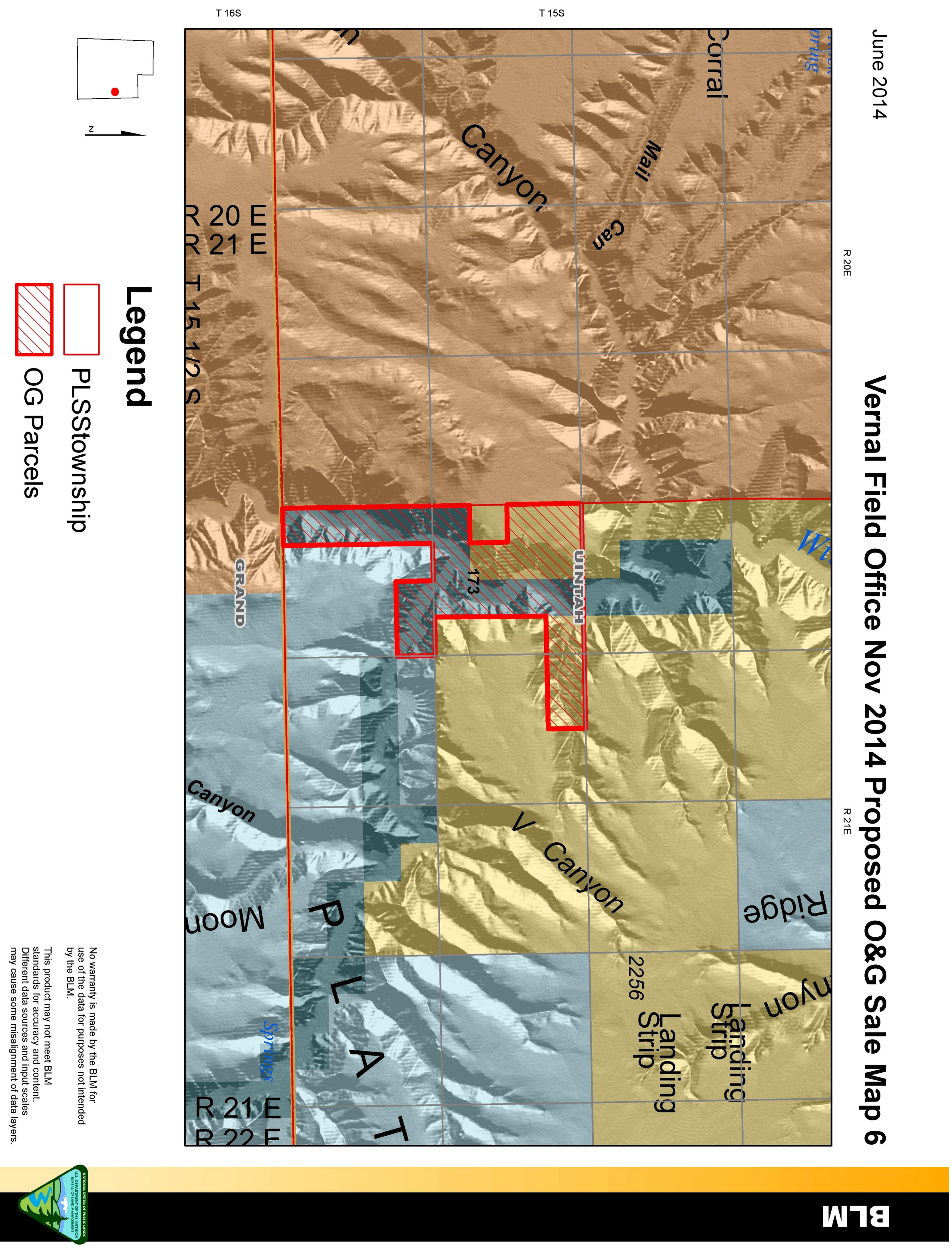
This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers.



No warranty is made by the BLM for use of the data for purposes not intended by the BLM.

This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers.


Vernal Field Office Nov 2014 Proposed O&G Sale Map 5
June 2014
Legend
PLSStownship
OG Parcels
155
156
157
169
T 12S
T 13S
R 19E
R 20E
R 21E
R 22E
R 19 E
R 20 E
R 21 E
R 22 E
UINTAH
Agency Draw
Agency Draw Oil Field
Landing Strip
Johnson
Green Draw
Buck Canyon Road
Seep Ridge Road
BUCK CANYON GAS FIELD
Ranch
Sunday
School
Corral
0 1 2 Miles
0 1 2 Kilometers
No warranty is made by the BLM for use of the data for purposes not intended by the BLM.
This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers.
BLM


Vernal Field Office Nov 2014 Proposed O&G Sale Map 6
June 2014
Legend
PLSStownship
OG Parcels
No warranty is made by the BLM for use of the data for purposes not intended by the BLM.
This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers.
BLM
T 16S
T 15S
R 20E
R 21E
R 20 E
R 21 E
R 21 E
Canyon
Corral
Mail
Can
UINTAH
GRAND
173
Canyon
Ridge
Landing Strip
Landing Strip
2256
Moon
Canyon
P L A T
Springs

Appendix C. Interdisciplinary Team Checklist

C.1. Interdisciplinary Team Checklist

Project Title: 2014 Lease Sale

NEPA Log Number: DOI-BLM-UT-G010–2014–09–EA

Project Leader:Melissa Wardle

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present with potential for relevant impact that need to be analyzed in detail in the EA

Determination	Resource/Issue	Rationale for Determination	Signature	Date
RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)				
PI	Air Quality & Greenhouse Gas Emissions	Emissions from earth-moving equipment, vehicle traffic, drilling and completion activities, separators, oil storage tanks, dehydration units, and daily tailpipe and fugitive dust emissions could adversely affect air quality. No standards have been set by EPA or other regulatory agencies for greenhouse gases. In addition, the assessment of greenhouse gas emissions and climate change is still in its earliest stages of formulation. Global scientific models are inconsistent, and regional or local scientific models are lacking so that it is not technically feasible to determine the net impacts to climate due to greenhouse gas emissions. It is anticipated that greenhouse gas emissions associated with this action and its alternative(s) would be negligible.	Stephanie Howard	3/20/2014
NP	BLM Natural Areas	None of the proposed lease parcels occur within any BLM Natural Areas as per GIS and RMP review.	Dan Gilfillan	4/4/2014

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Cultural: Archaeological Resources	A complete inventory of the proposed lease parcels has not occurred; however cultural resource sites have been identified within the parcels. After consideration of cultural resource information and other general data including ● Vernal Field Office Resource Management Plan (RMP) and Environmental Impact Statement (EIS) ● Oil and gas activity NEPA documents ● Specific data relating to the individual proposed parcels such as topography and soils ● Personal knowledge and experience of the lands at issue it has been determined that reasonable development could occur without adverse impacts to cultural properties eligible to the NRHP. The potential for locating additional cultural resources within the proposed lease parcels is low to moderate. The BLM will not approve any ground disturbing activities that may affect such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated. Application of WO IM 2005–003 Cultural Resources Stipulation is warranted for all parcels. Consultation with SHPO was sent on May 28 2014. SHPO concurred with the findings of the BLM VFO June 2, 2014	Cameron Cox	4/9/2014
NI	Cultural: Native American Religious Concerns	Consultation Letters containing notification of this lease sale, location maps and legal descriptions of the offered parcels were sent to the Tribes identified in Chapter 5 of this EA on May 28th 2014. The letters detailed the leasing proposal and requested comments and concerns. No responses or the absence thereof.	Cameron Cox	4/9/2014

Determination	Resource/Issue	Rationale for Determination	Signature	Date
PI	Designated Areas: Areas of Critical Environmental Concern	Several lease parcels occur within areas designated as ACECs. Parcels (ID#s) 30 and 354 occur within the Lower Green River ACEC. Relevance and importance values include riparian habitiat and scenery. Parcels (ID#) 118, 121, 122, 126, 134, and 137 occur within the Nine Mile ACEC. Relevance and importance values for Nine Mile ACEC include cultural resources, high quality scenery, and special status species.	Dan Gilfillan	4/4/2014
PI	Designated Areas: Wild and Scenic Rivers	Parcels (ID#s)132, 134, and 135 are located within the WSR suitable segment of the Lower Green River.	Dan Gilfillan	4/4/2014
NP	Designated Areas: Wilderness Study Areas	None of the proposed lease parcels occur within any BLM WSAs as per GIS and RMP review.	Dan Gilfillan	4/4/2014
NI	Environmental Justice	As defined in EO 12898, minority, low income populations and disadvantaged groups may be present within the counties involved in this lease sale. However, all citizens can file an expression of interest or participate in the bidding process (43 CFR §3120.3-2). The stipulations and notices applied to the subject parcels do not place an undue burden on these groups. Leasing the nominated parcels would not cause any disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Native American Tribes because the minerals are federal or and the surface is private or BLM.	Stephanie Howard	3/20/2014
NP	Farmlands (prime/unique)	None of the proposed Lease Parcels occur within prime or unique Farmlands.	Melissa Wardle	4/10/2014
NI	Fuels/Fire Management	There are no planned fuels projects in the immediate area. Disturbance in this vegetation type could increase the amount of invasive plants, specifically *Bromus tectorum.* The increase of *Bromus tectorum* could lead to a change of ecosystem dynamics and an increase in fire frequency. Applying the Green River District Reclamation Guidelines should prevent additional hazardous fuels.	Blaine Tarbell	3/17/2014

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Geology/Minerals/ Energy Production	Leasing will not affect geology or minerals. But when wells are drilled, encounters with gilsonite during any surface or drilling operation must be reported to the BLM Vernal Field Office. Please provide location and depth encountered. Natural gas, oil, gilsonite, oil shale, and tar sand are the only mineral resources that could be impacted by the project. Production of natural gas or oil would deplete reserves, but the proposed project allows for the recovery of natural gas and oil per 43 CFR 3162.1(a), under the existing Federal lease. Compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations" will assure that the project will not adversely affect gilsonite, oil shale, or tar sand deposits. Due to the state-of-the-art drilling and well completion techniques, the possibility of adverse degradation of tar sand or oil shale deposits by the proposed action will be negligible. Well completion must be accomplished in compliance with "Onshore Oil and Gas Order No. 2, Drilling Operations". These guidelines specify the following: *... proposed casing and cementing programs shall be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use.*	Betty Gamber	3/10/2014
NI	Invasive Plants/ Noxious Weeds, Soils & Vegetation	In accordance with the Green River Reclamation Guidelines, compliance with requirements of the Guidelines will be a COA for all BLM authorizations within the jurisdiction of the Green River District Weeds, Soils & Vegetation Office. Compliance will prevent impacts to soils and vegetation and prevent the spread of invasive and noxious weeds.	Melissa Wardle	4/10/2014

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Lands/Access	The proposed area is located within the VFO RMP/ROD area, which allows for oil and gas development with associated road, pipeline and power line right-of-ways. Oil and gas leasing is not expected to affect access to public lands. Leasing would be subject to all valid pre-existing rights. Any proposals for future projects within the oil and gas lease area would be reviewed on a site-specific basis and other right-of-way holders in the area would also be notified, as per regulations, when an application for right-of-way is received by this office. There are pending and existing right-of-ways that could affect all or portions of the parcels. Parcel: 051, 113, 114, 116, 134, 135, 214 *Pending EIS* for the Trans West Express and Gateway South 600kV overhead power lines. Parcel 214: *Pending EIS* for Enefit Oil Shale Project for an Overhead Power Line, and water, oil and gas pipelines. The EIS will also analyze the upgrade/reroute of Dragon Road authorized under right-of-way UTU-69125–06 Parcels 126, 132, 134, 135, Portions of these parcels are within a Withdrawal Power Site Res. 42. Parcels 214, 217, 254. There are private mining claims identified in these parcels. Parcel: 216 Right-of-Way UTU-30745 authorizes the White River Dam, Reservoir, Overhead Power Line, and Access Road. There are no conflicts with Public Water Reserves on the proposed lease parcels per the Master Title Plats.	Margo Roberts	4/11/2014

Determination	Resource/Issue	Rationale for Determination	Signature	Date
PI	Lands with Wilderness Characteristics (LWC)	Several parcels proposed in the lease sale are located in areas found to possess wilderness character. Parcels (ID #) 195, 214, and 216 occur within the White River wilderness character inventory unit. Parcel (ID#) 196 occurs within Lower Bitter Creek and Archy Bench A wilderness character inventory units. Parcels (ID#) 118, 121, 122, 126, 134 and 137 occur within the Desolation Canyon wilderness character inventory unit. Parcel (ID#)116, 121 and 122 occur within the Badlands Cliffs wilderness character inventory unit.	Dan Gilfillan	4/4/2014
PI	Livestock Grazing & Rangeland Health Standards	In the following parcels: (see Chapter Three for specific parcel numbers), there is potential to inhibit livestock movement due to disturbance and activity. The loss of forage, weed invasion and soil erosion in the allotments will lessen the available AUMs. Increased traffic may lead to an increase in vehicle livestock collisions, increasing mortality rates. Site specific mitigation may need to take place where Range Improvement Projects (RIPs) exist. This may include a 200 yard buffer from all RIPs. Depending on amount of disturbance, compensatory adjustments may be needed if AUMs are reduced on livestock operations; this will be done during specific Environmantal Analysis documents for the allotments.. All parcels listed have cumulative effects that already have reached the Potential Impact level.	Alec Bryan, Dusty Carpenter	5/6/2014
NI	Paleontology	There is potential for paleontological resources to be present. Paleontology surveys will need to be conducted for parcels on BLM land before any exploratory or operational surface disturbance can take place. If these paleo surveys discover any scientifically important fossils, appropriate mitigation measures will be followed to protect valuable paleontological resources.	Betty Gamber	3/10/2014

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Plants: BLM Sensitive	Several BLM sensitive plant species and habitat may be present in all lease parcels. Lease notice UT-LN-49 has been included for BLM Sensitive Species. Survey requirements, BMP's SOP's and design features would be applied at the APD stage as COA's to mitigate potential impacts if proponent does not submit adequate ACEPM's. Therefore, impacts to BLM sensitive species would not occur at the lease level. Application of BLM-Sensitive plant leasing notification is applicable for all parcels.	Maggie Marston	4/14/2014
NI	Plants: Threatened, Endangered, Proposed, or Candidate	Resource may be present, especially for Graham's Penstemon *(Penstemon grahamii*), White River Penstemon, *Penstemon scariosus var. albifluvis*) and *Sclerocactus* ssp. Others may be present. In accordance with WO IM 2002-174, all leases would be subject to the Endangered Species Act Section 7 Consultation Stipulation. Surveys, SOPs, BMPs and design features would be applied at the APD stage as COAs if the proponent does not submit adequate ACEPM's. Therefore, impacts to T&E and candidate plant species would not occur at the lease level. Application of the standard Endangered Species Act stipulation as per WO IM 2002-174 ,Lease Notice T&E-05 and Lease Notice UT-LN-51 is warranted on all parcels.	Maggie Marston	4/14/2014
NI	Plants: Wetland/Riparian	Although leasing of the parcels will not directly affect wetlands or riparian zones, if oil and gas development occurs the small portions of the mapped 100 year floodplains that are found in parcels (ID#s)132, 134, 135, 153, 163, 169, 173, 177, 195, 196, 209, 214, and 217 and which tend to exhibit wetland and riparian type functions that could be affected. Impacts to these areas will be mitigated by Lease Stipulation UT-S-123 and Lease Notice UT-LN-53.	Melissa Wardle	4/10/2014
PI	Recreation	Parcels (ID#s)115, 118, 126, 121 and 122 are located within the Nine Mile Special Recreation Management Area (SRMA). Second Nature Wilderness Therapy group has several developed campsites occurring within several proposed lease parcels. Campsites occur within parcels (ID#) 51, 109, 110, 112, 113 and 114. Parcel (ID#) 163 contains a developed recreation site , the Horseshoe Bend	Dan Gilfillan	4/4/2014

		Camp. Stipulation UT-S-53 Developed Recreation Sites will be adequate to protect this site.		
NI	Socio-Economics	No impact to the social or economic status of the counties or nearby communities would occur from the leasing of these parcels due to their small size of this project in relation to ongoing development throughout the Uinta Basin.	Melissa Wardle	4/10/2014
PI	Visual Resources	Parcels (ID#) 116, 118, 121, 122, 126, 132, 134, 135, 137, 214 and 216. contain lands managed as VRM class II. The objective of class II is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, by should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color and texture found in the predominant natal features of the characteristic landscape. New projects can be approved if they blend in with the existing surroundings and don't attract attention. Parcels (ID#)1110, 115, 118, 121, 122, 132, 153, 155, 163, 169, 176, 177, 179, 209, 214, 216, 217, 218, 248 and 254 contained lands managed as VRM class III that overlap other recreational resource concerns (e.g. developed rec sites, SRMAs, ACECs, etc...). The objective of VRM class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominate natural features of the characteristic landscape. New projects can be approved that are not large scale , dominating features.	Dan Gilfillan	4/4/2014
NI	Wastes (hazardous/solid)	The analysis in the Vernal RMP is sufficient. No hazardous or solid waste sites are known to be present. No hazardous or solid waste sites are anticipated to occur as a result of leasing. No stipulations or lease notices apply.	Melissa Wardle	4/10/2014

NI	Water: Floodplains	Floodplains are associated with Parcel (ID#s) 132, 135, 153, 163, 173, 177, 195, 196, 214, and 217. Leasing of the proposed parcels would not, by itself, authorize any ground disturbances. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground disturbance proposal on the parcels. In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the 2008 Vernal ROD/RMP BLM VFO resource specialist knowledge and parcel site-visits, and the protective measure that would be applied to the parcels if leased, significant impacts beyond those already addressed in the 2008 Vernal ROD/RMP are not anticipated to occur as a result of leasing the proposed parcels.	James Hereford II	4/10/2014
NI	Water: Groundwater Quality	Leasing will not affect groundwater. When wells are drilled, compliance with "Onshore Oil and Gas Order No. 1, will assure that the project will not adversely affect groundwater quality. Due to the state-of-the-art drilling and wells completion techniques, the possibility of adverse degradation of groundwater quality or prospectively valuable mineral deposits by the proposed action will be negligible	Betty Gamber	3/10/2014
NI	Water: Hydrologic Conditions (stormwater)	Hydrologic conditions do exist in the Vernal Feild Office, Leasing of the proposed parcels would not, by itself, authorize any ground disturbances. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground	James Hereford II	4/10/2014

		disturbance proposal on the parcels. In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the 2008 Vernal ROD/RMP BLM VFO resource specialist knowledge and parcel site-visits, and the protective measure that would be applied to the parcels if leased, significant impacts beyond those already addressed in the 2008 Vernal ROD/RMP are not anticipated to occur as a result of leasing the proposed parcels. .		
NI	Water: Surface Water Quality	Leasing of the proposed parcels would not, by itself, authorize any ground disturbances which could contribute runoff affecting surface water quality. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground disturbance proposal on the parcels. In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the 2008 Vernal ROD/RMP BLM VFO resource specialist knowledge and parcel site-visits, and the protective measure that would be applied to the parcels if leased, significant impacts beyond those already addressed in the 2008 Vernal ROD/RMP are not anticipated to occur as a result of leasing the proposed parcels.	James Hereford II	4/10/2014
NI	Water: Waters of the U.S.	Leasing of the proposed parcels would not, by itself, authorize any ground disturbances that affect Water of the U. S. . Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground	James Hereford II	4/10/2014

		disturbance proposal on the parcels. In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the 2008 Vernal ROD/RMP, BLM VFO resource specialist knowledge and parcel site-visits, and the protective measure that would be applied to the parcels if leased, significant impacts beyond those already addressed in the 2008 Vernal ROD/RMP are not anticipated to occur as a result of leasing the proposed parcels.		
NP	Wild Horses	No herd areas or herd management areas are present as per GIS review.	Dusty Carpenter	4/10/2014
PI	Wildlife: Migratory Birds (including raptors)	Migratory bird foraging and nesting habitat is present in all parcels. There are known or documented raptor nests within ½ miles of several parcels.	Daniel Emmett	4/07/2014
PI	Wildlife: Non-USFWS Designated	Designated elk crucial year long and winter habitat within several parcels. Designated deer crucial year long and winter habitat within several parcels. Prairie dog habitat within several parcel. Mountain Plover habitat within parcels 119, 124 and 133.	Daniel Emmett	4/07/2014
PI	Wildlife: Threatened, Endangered, Proposed or Candidate	Is the proposed project in sage grouse PPH or PGH? No. If the answer is yes, the project must conform with WO IM 2012-043. MSO habitat exists within parcels 122 126. 169 and 173.	Daniel Emmett	4/07/2014
NI	Woodlands and Forestry	Woodlands are present in areas of the proposed lease parcels. Leasing of the proposed parcels would not, by itself, authorize any ground disturbing activities that could affect woodlands. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred. However, any development proposal on the lease parcels would be subject to the standard lease terms, the protective lease notices and stipulations identified in Appendix A, and all applicable laws, regulations and onshore orders in existence at the time of lease issuance. Site-specific analysis would be required prior to the approval of any ground disturbance proposal on the parcels. In light of existing knowledge regarding resource values on the subject parcels, which is based upon the analysis in the 2008 Vernal ROD/RMP, BLM VFO resource specialist knowledge and parcel site-visits, and the protective measure that would be applied to the	Dave Palmer	4/10/2014

		parcels if leased, significant impacts beyond those already addressed in the 2008 Vernal ROD/RMP are not anticipated to occur as a result of leasing the proposed parcels.		

FINAL REVIEW:			
Reviewer Title	**Signature**	**Date**	**Comments**
Environmental Coordinator			
Authorized Officer			

Appendix D. Deferred Parcels and Parcel Sections

BLM_Sale ID	Legal Description of Deferred Parcel and deferred Sections	Reason for Deferral
UT-1114-051	T. 11 S., R. 14 E., Salt Lake Sec. 8; Sec 14:SE4	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-085	T. 11 S., R. 15 E., Salt Lake Sec. 3: S2N2; SE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-108	T. 10 S., R. 16 E., Salt Lake Secs. 1, 11, 12 and 13: All	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-7548-109	T. 10 S., R. 16 E., Salt Lake Sec 10: SE, E2SW and SENE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-111	T. 10 S., R. 16 E., Salt Lake Secs. 14 and 15: All; Sec. 23: E2E2.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-113	T. 10 S., R. 16 E., Salt Lake Secs. 25: All; Sec. 35 SENE and SESE qrt/qrts	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-115	T. 11 S., R. 16 E., Salt Lake Secs. 1 and 12: All; Sec. 13: N2N2; Sec. 14: N2; Sec. 15: N2.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-117	T. 11 S., R. 16 E., Salt Lake Sec. 6: Lots 1-7, S2NE, SENW; Sec. 7: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-119	T. 9 S., R. 17 E., Salt Lake Sec. 35: S2SW, SWSE.	Majority of the east section of parcel is within a White-Tail Prairie Dog Colony,
UT-1114-120	T. 11 S., R. 17 E., Salt Lake Sec. 10: E2.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-126	T. 11 S., R. 18 E., Salt Lake Sec. 19: N2SW, N2SWSW, SESW, S2SE; Sec. 20: S2S2; Sec. 29: W2; Sec. 30: N2.	Sand Wash Rec Area, not fully protected by Vernal RMP so removed until inadequacy in RMP can be addressed
UT-1114-127	T. 5 S., R. 19 E., Salt Lake Sec. 1: All; Sec. 12: NENE, S2NE, W2, SE; Sec. 13: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-128	T. 5 S., R. 19 E., Salt Lake Sec. 10: Lot 1, E2NE; Sec. 11: N2, N2SW, SESW, SE; Sec. 14: E2, E2W2.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-129	T. 5 S., R. 19 E., Salt Lake Sec. 22: S2NE, SENW, Excluding U4377; Sec. 23: W2NE, SENE; Sec. 24: SWNW, S2SW; Sec. 25: N2NW.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-130	T. 6 S., R. 19 E., Salt Lake Sec. 4: Lot 8, Tract 39, Tract 40; Sec. 9: Lots 5-7; Sec. 11: Tract 45.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-131	T. 6 S., R. 19 E., Salt Lake Sec. 13: N2, SE; Sec. 14: Lot 1, NENW; Sec. 15: SENW, SESW, NESE; Sec. 22: S2NE, W2SE; Sec. 24: N2NE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse

UT-1114-138	T. 5 S., R. 20 E., Salt Lake Sec. 3: Lots 3, 4, S2NW, SW; Secs. 4, 9 and 10: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-139	T. 5 S., R. 20 E., Salt Lake Secs. 5, 6 and 7: All	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-140	T. 5 S., R. 20 E., Salt Lake Secs. 8, 17 and 18: All	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-141	T. 5 S., R. 20 E., Salt Lake Secs. 13, 14 and 15: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-142	T. 5 S., R. 20 E., Salt Lake Secs. 19 and 30: All; Sec. 31: Lots 1-4, NE, E2NW	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-143	T. 5 S., R. 20 E., Salt Lake Secs. 20, 21 and 22: All	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-144	T. 5 S., R. 20 E., Salt Lake Secs. 23, 24, 25 and 26: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-145	T. 5 S., R. 20 E., Salt Lake Secs. 27, 28 and 29: All	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-146	T. 5 S., R. 20 E., Salt Lake Sec. 31: Lots 5-11, NESW, N2SE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-147	T. 5 S., R. 20 E., Salt Lake Secs. 33, 34 and 35: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-148	T. 6 S., R. 20 E., Salt Lake Sec. 5: Lots 1, 2, S2NE, SE; Sec. 15: E2NE	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-149	T. 6 S., R. 20 E., Salt Lake Sec. 30: Lots 1-4, E2W2; Sec. 31: All excluding ROW U16133	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-150	T. 6 S., R. 20 E., Salt Lake Secs. 33, 34 and 35: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-155	T. 12 S., R. 20 E., Salt Lake Sec. 10: E2SE Sec. 17: SW, SWNW Sec. 15: S2, NE, SENW	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-156	T. 12 S., R. 20 E., Salt Lake Sec. 34 N2, N2S2, S2SE, SESW	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-157	T. 13 S., R. 20 E., Salt Lake Sec. 15: NENW	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-158	T. 5 S., R. 21 E., Salt Lake Sec. 19: All; Sec. 29: N2; Sec. 30: NE, N2NW, SENW, S2;Sec. 31: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-159	T. 5 S., R. 21 E., Salt Lake Sec. 33: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-160	T. 6 S., R. 21 E., Salt Lake Secs. 3, 10 and 15: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse

UT-1114-161	T. 6 S., R. 21 E., Salt Lake Secs. 6 and 7: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-162	T. 6 S., R. 21 E., Salt Lake Sec. 11: All; Sec. 12: Lots 1, 2, 7, 8, S2; Sec. 14: Lots 7, 8, NENW, W2W2.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-164	T. 7 S., R. 21 E., Salt Lake Sec. 1: Lots 11 and 12; Sec. 14: NWSW; Sec. 15: W2NE, SENE; Sec. 20: SE.	Majority of the east section of parcel is within a White-Tail Prairie Dog Colony.
UT-1114-169	T. 13 S., R. 21 E., Salt Lake Sec. 15: W2NW Sec. 16: W2E2; Sec. 21: W2W2, N2N2, NWNE, SWNE, N2SW, SWSW.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-170	T. 15 S., R. 21 E., Salt Lake Sec. 3: All; Sec. 9: E2NE, SE; Sec. 10: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-171	T. 15 S., R. 21 E., Salt Lake Sec. 6: Lots 2-7, S2NE, SENW, E2SW; Sec. 7: Lots 1-4, E2NW; Sec. 18: Lots 1-4; Sec. 19: Lots 1 and 2.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-172	T. 15 S., R. 21 E., Salt Lake Sec. 20: E2NE, NESE; Secs. 21, 22 and 28: All; Sec. 33: N2, N2SE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-173	T. 15 S., R. 21 E., Salt Lake Sec. 29: N2NE Sec. 30: E2SE, SENE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-180	T. 8 S., R. 22 E., Salt Lake Sec. 6: Lots 1-5, S2NE, SENW.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-207	T. 8 S., R. 24 E., Salt Lake Sec. 1: Lots 1, 2, S2NE, SE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-208	T. 8 S., R. 24 E., Salt Lake Sec. 13: S2SE; Sec. 24: E2; Sec. 25: E2.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-209	T. 8 S., R. 24 E., Salt Lake Sec. 15: N2S2; S2SE and SESW; Sec. 23: SENE, SWSE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-210	T. 9 S., R. 24 E., Salt Lake Sec. 1: Lots 1-5, S2N2, N2S2, SESW, SWSE; Sec. 12: Lot 7.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-211	T. 9 S., R. 24 E., Salt Lake Sec. 4: Lots 3, 4, S2N2, S2; Sec. 9: NWNE, SE; Sec. 10: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-212	T. 9 S., R. 24 E., Salt Lake Sec. 14: NE, S2NW, S2; Sec. 22: S2NW, W2SW, SESW, SE; Sec. 23: Lots 1-10, N2NE, W2SW, SESW.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-213	T. 9 S., R. 24 E., Salt Lake Sec. 26: All; Sec. 28: SWNW; Sec. 35: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-214	T. 10 S., R. 24 E., Salt LakeSec. 12: S2SW;Sec. 11: SESE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse

UT-1114-238	T. 8 S., R. 25 E., Salt Lake Sec. 6: SWSW; Sec. 7: SE; Sec. 8: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-239	T. 8 S., R. 25 E., Salt Lake Sec. 17: All; Sec. 18: NE, N2NW, SWNW; Sec. 19: N2, N2SW, SWSW, SE; Sec. 20: N2, SW, W2SE, SESE; Sec. 21: SWNW.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-240	T. 8 S., R. 25 E., Salt Lake Sec. 21: E2NE; Sec. 22: E2, NESW; Secs. 23, 24 and 25: All; Sec. 26: N2, E2SW, SE; Sec. 27: E2NE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-241	T. 8 S., R. 25 E., Salt Lake Sec. 27: SW; Secs. 33, 34, 35 and 36: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-242	T. 8 S., R. 25 E., Salt Lake Sec. 29: NW; Secs. 30, 31 and 32: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-243	T. 9 S., R. 25 E., Salt Lake Secs. 1 and 2: All; Sec. 3: Lots 1-4, S2N2, SW; Sec. 10: N2NW; Sec. 11: N2NE; Sec. 12: Lot 1, NWNW.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-244	T. 9 S., R. 25 E., Salt Lake Sec. 4: All;Sec. 5: S2;Sec. 6: S2; Sec. 9: N2NE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-246	T. 10 S., R. 25 E., Salt Lake Secs. 19 and 30: All; Sec. 31: N2, SE.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-247	T. 10 S., R. 25 E., Salt Lake Sec. 20: S2; Sec. 21: W2SW; Sec. 28: W2; Sec. 29: All.	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse
UT-1114-248	T. 10 S., R. 25 E., Salt Lake Sec. 33 W2, W2E2, and E2SE	A majority of the qtr/qtrs are within preliminary priority habitat (PPH) for Sage Grouse

Appendix E. Comments And Responses

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Appendix F. Parcel Pictures

Image Oil and Gas Parcel 050

Image Oil and Gas Parcel 051

Image Oil and Gas Parcel 107

Appendix F Parcel Pictures
Interdisciplinary Team Checklist

Image Oil and Gas Parcel 109

Image Oil and Gas Parcel 110

Image Oil and Gas Parcel 112

Image Oil and Gas Parcel 113

Image Oil and Gas Parcel 114

Image Oil and Gas Parcel 116

Image Oil and Gas Parcel 118

Image Oil and Gas Parcel 119

Image Oil and Gas Parcel 121

Image Oil and Gas Parcel 122

Image Oil and Gas Parcel 124

Image Oil and Gas Parcel 126

Image Oil and Gas Parcel 133

Image Oil and Gas Parcel 134

Image Oil and Gas Parcel 135

Image Oil and Gas Parcel 137

Image Oil and Gas Parcel 153

Image Oil and Gas Parcel 155

Image Oil and Gas Parcel 156

Image Oil and Gas Parcel 157

Image Oil and Gas Parcel 163

Image Oil and Gas Parcel 174

Image Oil and Gas Parcel 176

Image Oil and Gas Parcel 179

Image Oil and Gas Parcel 195

Image Oil and Gas Parcel 209

Image Oil and Gas Parcel 214

Image Oil and Gas Parcel 216

Image Oil and Gas Parcel 217

Image Oil and Gas Parcel 218

Image Oil and Gas Parcel 248

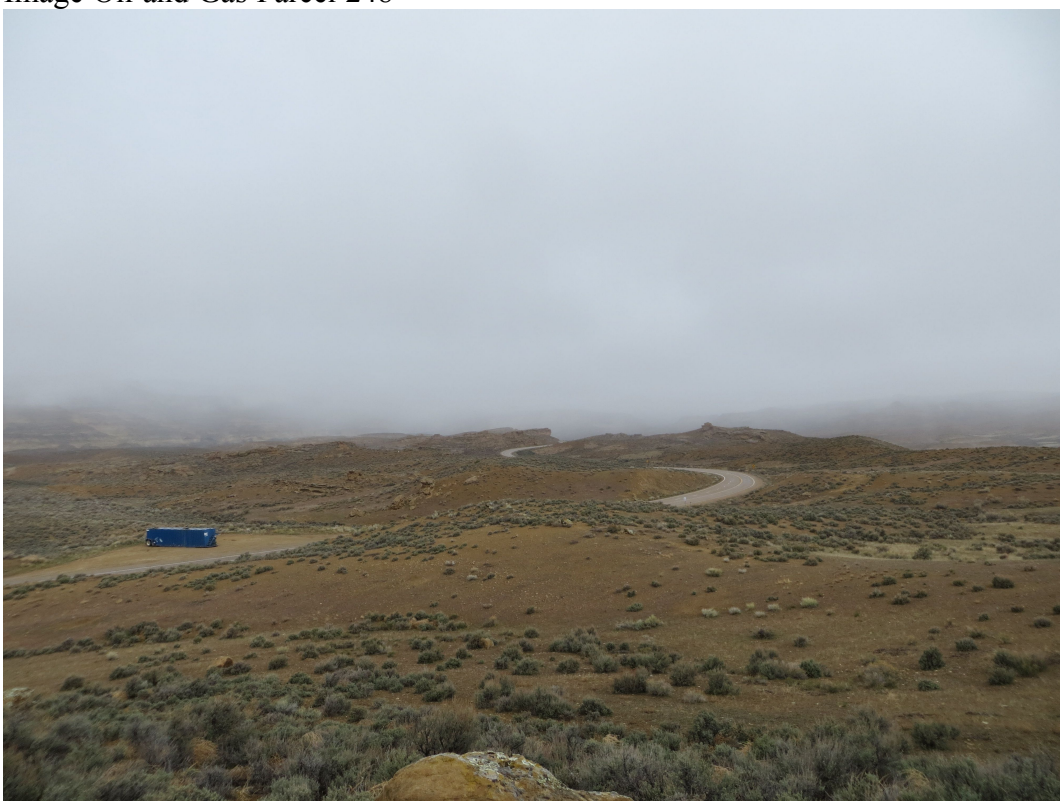

Image Oil and Gas Parcel 254